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SEMIANNUAL MONITORING REPORT

OPERABLE UNIT NO. 7 - SITES 1 AND 28
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

REPORTING PERIOD JULY 1997 - DECEMBER 1997

CONTRACT TASK ORDER 0367

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PREFACE

The semiannual monitoring reports that are presented herein describe the procedures, analytical findings, and subsequent recommendations of the monitoring program at Operable Unit (OU) No. 7, Marine Corps Base (MCB) Camp Lejeune, North Carolina. Figure P-1 depicts the location of OU No 7. The monitoring reports have been prepared by Baker Environmental, Inc. and submitted to the Naval Facilities Engineering Command, Atlantic Division; MCB Camp Lejeune, Environmental Management Department; the United States Environmental Protection Agency - Region IV; and the North Carolina Department of Environment, Health and Natural Resources.

Monitoring program activities at OU No. 7 were implemented in response to the Record of Decision (ROD) document signed by MCB Camp Lejeune on May 16, 1996. The ROD for OU No. 7 stipulates that environmental samples from Sites 1 and 28 be collected semiannually and submitted for specified laboratory analyses. The ROD also indicates that documentation in support of the selected remedy, institutional controls with monitoring, be maintained for periodic regulatory review. No further remedial actions were specified for the third site included in OU No. 7, Site 30.

The principal objective of the monitoring program at OU No. 7 is to monitor the potential for human or ecological exposure due to off-site migration of contaminants. The semiannual monitoring reports document the findings and provide interested parties with information required to authorize future decisions regarding OU No. 7. Information presented in the monitoring reports will be used to either extend, modify, or discontinue the monitoring program as necessary.

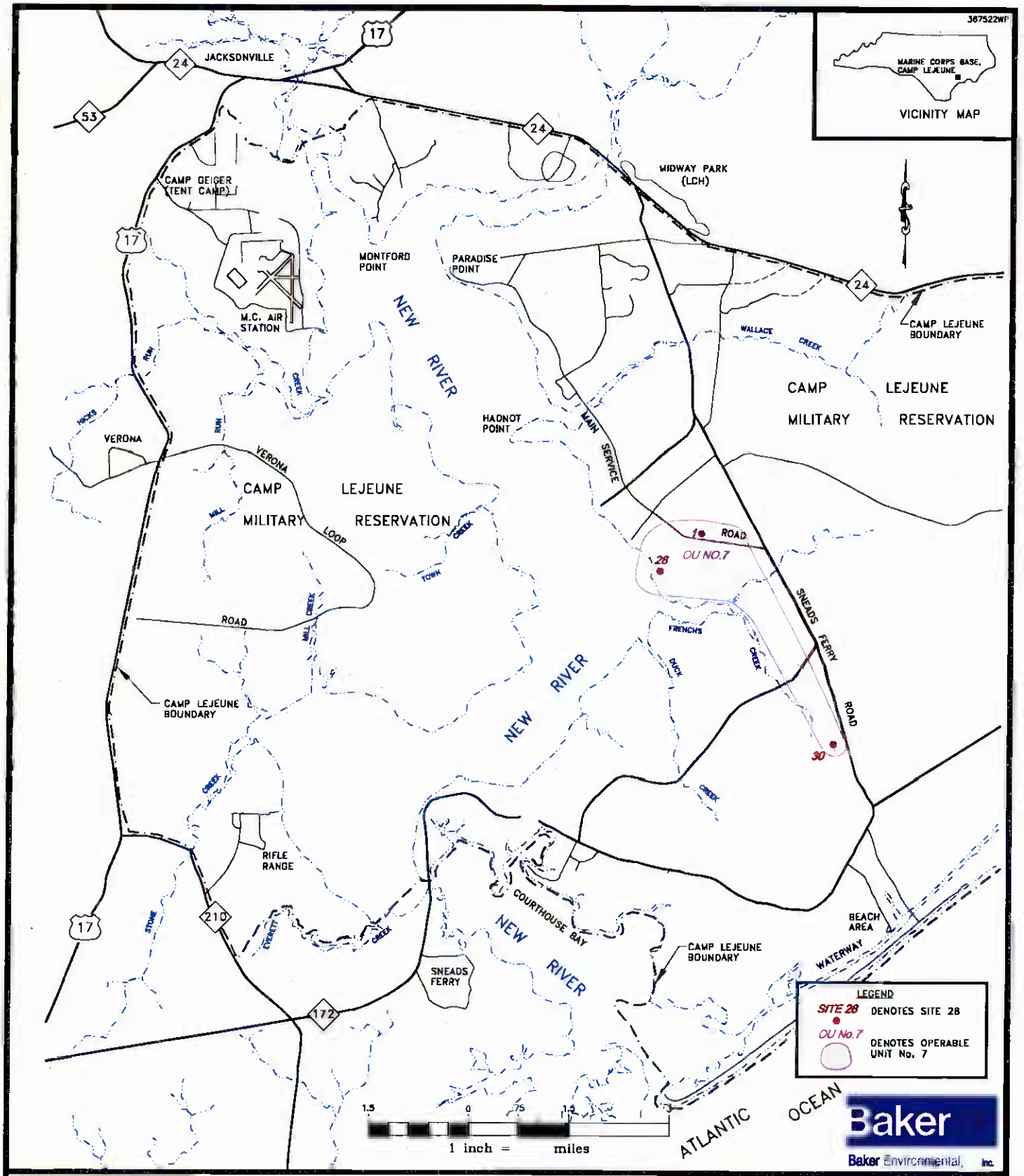

FIGURE P-1
LOCATION MAP
OPERABLE UNIT No. - SITES 1 AND 28
MONITORING AND O&M SUPPORT, CTO - 0367

MARINE CORPS BASE, CAMP LEJEUNE
NORTH CAROLINA

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SEMIANNUAL MONITORING REPORT

The semiannual monitoring report which follows presents a summary of sampling activities, field observations, analytical results, and significant findings which pertain to the monitoring program at Operable Unit (OU) No. 7 (Sites 1 and 28), Marine Corps Base (MCB) Camp Lejeune, North Carolina. Conclusions and recommendations regarding the monitoring program are also presented within this report.

Semiannual monitoring activities at OU No. 7 commenced August 6, 1997 and concluded August 9, 1997. Groundwater samples at Site 1 were obtained from seven shallow monitoring wells and one deep monitoring well. Groundwater samples at Site 28 were obtained from five shallow monitoring wells and two deep monitoring wells. In addition to groundwater samples, surface water and sediment samples were obtained from three locations adjacent to Site 28 in the New River. Figure 1 depicts groundwater sampling locations at Site 1. Figure 2 depicts groundwater, surface water, and sediment sampling locations at Site 28. [Note that all tables and figures are provided after the text portion of this report.]

Sampling activities were conducted and subsequent laboratory analyses were performed according to procedures and methods specified in the Long-Term Monitoring Work Plans for OU No. 7 (Baker, 1996). The project work plans identify a select number of monitoring wells at Sites 1 and 28 for which continued periodic sampling is required. Tables 1 and 2 provide construction details of monitoring wells included in the monitoring program. As stipulated in the project work plans, measurements of pH, specific conductance, dissolved oxygen, temperature, and turbidity were recorded prior to sampling. Summaries of groundwater field parameters from Sites 1 and 28 are provided in Tables 3 and 4, respectively.

The monitoring program at Sites 1 and 28 was implemented to assess whether contamination, detected during previous investigations, remains present, has migrated, or has degraded through natural processes. Based upon previous analytical results and decision documents, volatile organic compounds (VOCs) were identified as contaminants of concern at Site 1; metals were identified as a concern at Site 28. Tables 5 and 6 provide a summary of requested laboratory analyses and sample identifications.

Sample information, including well number, sample identification, time and date of sample collection, samplers, analytical parameters, and required laboratory turnaround time was recorded in a field logbook and on sample labels. Chain-of-custody documentation, provided in Attachment A, accompanied the samples to the laboratory.

Groundwater Elevation and Flow Direction

The following provides information concerning groundwater flow patterns at Sites 1 and 28. For ease of discussion, groundwater elevations and flow directions are presented separately for each site.

Site 1

Water level measurements were obtained at Site 1 on August 8, 1997. Table 7 provides a summary of water level measurements. Figure 3 depicts the static elevations and approximate flow direction of groundwater at Site 1. The groundwater flow regime throughout the northern portion of Site 1 is relatively consistent. As depicted in Figure 3, groundwater flow is generally west toward an

unnamed tributary of Codgels Creek. The unnamed tributary discharges into Codgels Creek at Site 28, approximately 1,500 feet southwest of Site 1.

Site 28

Water level measurements at Site 28 were obtained on August 11, 1997. Table 8 provides a summary of water level measurements. Figure 4 depicts the static elevations and approximate flow direction of groundwater at Site 28. Groundwater flow within the surficial aquifer at Site 28 is influenced by the New River and Codgels Creek. As depicted in Figure 4, groundwater flow within the central and eastern portions of the site is toward Cogdels Creek.

Field Observations

The following field observations were noted during the most recent semiannual sampling event at Sites 1 and 28. Recommendations regarding the field observations which follow are presented later within this report.

Monitoring wells installed at Sites 1 and 28 during the 1984 Confirmation Study have begun to exhibit signs of deterioration. Turbidity readings, obtained during sampling activities, suggest that soil material from the surrounding formation has begun to infiltrate the well screens and sand packs of older monitoring wells. Less than ideal sampling conditions may result when consistent readings of greater than 50 nephlometric turbidity units (NTUs) in groundwater are obtained. In general, it is preferable that groundwater samples be collected after turbidity readings stabilize at less than ten NTUs. Elevated turbidity readings are particularly of concern among groundwater samples submitted for metal analyses; naturally-occurring metals which adhere to soil particles are frequently reflected among groundwater results. Metal analyses, however, were not requested for groundwater samples obtained from Site 1. Future sampling results from Site 28 will be used to determine if corrective measures will be required.

The northern portion of Site 28 is currently being utilized as a soil staging area while nearby construction activity is completed. Several soil mounds, of height greater than 10 feet and base diameter approximately 15 feet, have been placed in a semi-circular configuration adjacent to monitoring well 28-GW08. Although the soil mounds do not appear to have been placed atop the monitoring well, eroded soil from the mounds has almost completely buried the bollards and protective casing of 28-GW08.

ANALYTICAL RESULTS AND FINDINGS

The section which follows presents analytical results and findings from sampling performed at Sites 1 and 28 during the third calendar quarter of 1997. A summary of all analytical results compiled during the sampling event are presented in Attachment B and corresponding laboratory data sheets are provided in Attachment C.

Site 1

A trip blank was prepared prior to the sampling event and kept with the environmental samples from Site 1 during field collection, shipment, and laboratory analysis. As provided in Table 9, there were no organic compounds detected in the trip blank sample.

Each of the eight groundwater samples collected at Site 1 were analyzed for Target Compound List (TCL) volatiles. A summary of groundwater analytical results is provided in Table 10. A positive detection summary of volatile organic compounds (VOCs) in groundwater obtained at Site 1 is provided in Table 11.

Two VOCs were detected among the eight groundwater samples obtained at Site 1. At a concentration of 16 micrograms per liter (µg/L), 1,2-Dichloroethene (total) was detected in the sample obtained from shallow monitoring well 01-GW10. Xylenes (total) were detected in the groundwater sample obtained from shallow monitoring well 01-GW12 at a concentration of 280 µg/L. Neither the 1,2-dichloroethene (total) nor the xylene (total) detections exceeded the applicable North Carolina Water Quality Standards (NCWQS) or federal maximum contaminant levels (MCL) for drinking water. Figure 5 depicts the locations and concentrations of the 1,2-dichloroethene and xylene detections.

As depicted in Figure 5, the two shallow wells with positive VOC detections are located approximately 1,200 feet from one another. The lack of positive VOC detections in other wells suggests that VOC contamination in groundwater at Site 1 may be limited to the observed locations. In addition, the lack of positive VOC detections in the sample obtained from deep monitoring well 01-GW17DW suggests that volatile contaminants have not migrated from the surficial aquifer to the deeper Castle Hayne Aquifer.

Positive detections of VOCs at Site 1 have been documented in the past. Table 12 provides a summary of VOC results from groundwater samples obtained during the past three years at Site 1. Previous sampling results have indicated VOCs in samples obtained from monitoring wells 01-GW10, 01-GW11, 01-GW12, and 01-GW17. Overall, the latest sampling results show a decrease in both the number and concentrations of the VOCs. Due to the nature of contamination at Site 1, the decrease may be a result of natural degradation of organic compounds, natural fluctuations in groundwater levels, or migration of contaminants. Future sampling will be employed to determine the nature and persistence of the observed contaminants at Site 1.

Site 28

The sections which follow present analytical results and findings from sampling performed at Site 28 during the third calendar quarter of 1997. Each of the samples collected at Site 28 were analyzed for Target Analyte List (TAL) metals. Analytical results and findings from groundwater, surface water, and sediment sampling are presented separately, according to environmental media.

Groundwater Analytical Results

Metals were detected in each of the groundwater samples obtained at Site 28. Table 13 provides a summary of groundwater analytical results. A positive detection summary of metals in groundwater samples obtained at Site 28 is presented in Table 14. Figure 6 depicts the locations and groundwater sampling results of total metals that were detected at concentrations in excess of either NCWQS or MCL.

As depicted in Figure 6, antimony, iron, lead, and manganese were the only total metals detected among the seven groundwater samples at concentrations in excess of either NCWQS or MCL. Antimony exceeded the MCL of 6 µg/L in the sample obtained from monitoring well 28-GW07; antimony was detected at a concentration of 44.5 µg/L. Iron exceeded the NCWQS of 300 µg/L in

samples obtained from four of the seven monitoring wells. Iron was detected at concentrations ranging from 131 µg/L in the sample obtained from monitoring well 28-GW04 to 24,900 µg/L in a sample obtained from monitoring well 28-GW07. Lead was detected at a concentration of 30.6 µg/L in the sample obtained from 28-GW07. The NCWQS for lead is 15 µg/L. Concentrations of manganese ranging from 66.2 to 906 µg/L exceeded the NCWQS and MCL of 50 µg/L in samples obtained from monitoring wells 28-GW01, 28-GW01DW, 28-GW02, 28-GW07, and 28-GW08.

Antimony, iron, lead, and manganese were detected at their respective maximum concentrations in the sample obtained from shallow monitoring well 28-GW07, located within the former burn dump area. Iron and manganese were detected at maximum concentrations of 24,900 and 906 µg/L, respectively. The iron and manganese detections exceeded applicable NCWQS and MCL levels of 300 and 50 µg/L. Although the concentrations of both iron and manganese in groundwater samples often exceed established water quality standards, the levels are generally characteristic of natural site conditions. Soils found within the coastal plain of North Carolina are naturally rich in metals, particularly iron and manganese. The observed concentrations of iron and manganese in groundwater may be due more to geologic conditions (i.e., naturally occurring metals bound to unconsolidated soil particles) and sample acquisition methods than to mobile metal concentrations in the surficial aquifer. The presence of metals in groundwater is often the result of solids or colloids in aqueous samples. The metals detected among groundwater samples obtained from Site 28 may also be indicative of buried metal material. Buried metal objects have been unearthed during previous investigations at Site 28, primarily west of Cogdels Creek (refer to Figure 2). Buried metal material in the presence of naturally-occurring acidic soils may provide another plausible explanation for the observed metal concentrations.

Antimony and lead were the only other total metals identified among groundwater samples at concentrations which exceeded applicable water quality standards. As depicted in Figure 6, only one of the monitoring wells at Site 28 had a positive detection of antimony above the 6 µg/L MCL; monitoring well 28-GW07. Lead was detected in only two groundwater samples; one concentration exceeding the 6 µg/L MCL.

The observed concentrations of total metals in the groundwater at Site 28 are believed to be the result of natural site conditions and suspended solids within samples, possibly compounded by known buried metal material. The slight acidity of natural soils, coupled with the natural occurrence of metals and the presence of known buried metal material may have contributed to the observed concentrations of metals in groundwater at Site 28. Table 15 presents groundwater sampling results from the past two years. During the past four sampling events, iron and manganese have remained the most prevalent metals among groundwater samples obtained at Site 28. Iron and manganese concentrations have consistently exceeded NCWQS levels in samples obtained from monitoring wells 28-GW01, 28-GW01DW, 28-GW02, 28-GW07, and 28-GW08. To a much lesser extent, the metals aluminum, antimony, cadmium, and lead, have also been detected at concentrations in excess of applicable screening standards.

Surface Water Analytical Results

Metals were detected in each of the three surface water samples obtained from the New River at Site 28. Approximate locations of the surface water samples are depicted in Figure 2. Table 16 provides a summary of surface water analytical results. A positive detection summary of metals in the three surface water samples is presented in Table 17.

Laboratory analyses of the three surface water samples obtained from the New River indicate that 15 of 23 total metals were positively detected. As indicated in Table 16, none of the metals were detected at concentrations in excess of either state or federal screening criteria. Table 18 presents a summary of all previous analytical results which have exceeded either state or federal screening criteria. As Table 18 suggests, cadmium, copper, and lead have in the past been detected at concentrations in excess of applicable screening criteria.

Sediment Analytical Results

Three sediment samples were collected in conjunction with the surface water samples obtained from the New River. Laboratory analyses indicate that 14 of 23 metals were positively detected among the sediment samples. As indicated in Table 19, none of the metals were detected at concentrations which exceeded applicable screening criteria. A positive detection summary of metals in the three sediment samples is presented in Table 20.

Positive detections of lead among sediment samples obtained adjacent to a pistol firing range, located on the bank of the New River, have been documented in the past. Previous sampling results have implied that the presence of lead , in the form of lead shot, among sediment samples is the result of training activities at the pistol firing range. The most recent analytical results indicate that lead was detected in each of the three sediment samples at concentrations less than 36.5 milligrams per kilogram (mg/kg). The screening value for lead in sediment is 46.7 mg/kg. Although positively detected, observed concentrations of lead do not support the presumption that firing range activities have significantly contributed to the occurrence of lead in New River sediments.

RECOMMENDATIONS

Based upon the observations and findings presented in this semiannual report, the following recommendations for the monitoring program at OU No. 7 are provided. If non-significant changes are made to a component of the selected remedy, described in the ROD (Baker, 1995), the changes must be recorded in a post-decision document file. If significant changes are made to a component of the selected remedy, the changes will need to be presented in an Explanation of Significant Differences document.

Details pertaining to implemented recommendations have been presented within previous semiannual reports. The intent of this report and future reports is to provide a thorough description of proposed recommendations and a brief listing of implemented actions.

Implemented Recommendations

Bollards and protective casings of monitoring wells installed during the 1984 Confirmation Study were repainted with weather resistant paint in February 1997. Rust and peeling paint were removed prior to application of the new paint. In addition, new padlocks which operate with a universal key were installed on each monitoring well at Sites 1 and 28.

Proposed Recommendations

Based upon the observations and findings presented in this monitoring report, no significant changes to the monitoring program are currently recommended. The lack of metal contamination at Site 28 and the lack of significant VOC contamination at Site 1 suggests that future semiannual monitoring may not be required. The need for additional sampling may be more accurately and statistically

determined after a fourth semiannual event has been completed during January 1998. If after thorough examination of the resultant analytical data and determination that future risks of exposure are negligible, it may be recommended that sampling program activities be discontinued at both Sites 1 and 28.

Several monitoring wells at Site 1 have exhibited no VOC contamination during several sampling events, however, the limited number of additional samples that may be required will serve to further strengthen a case for discontinuation. Existing study information and extensive analytical data from several unrelated investigations throughout MCB Camp Lejeune will also lend credibility to the assertion that observed metal concentrations at Site 28 are naturally occurring.

REFERENCES

Baker Environmental, Inc. (Baker). December 1995. Record of Decision for Operable Unit No. 7 (Sites 1, 28 and 30). Final. Prepared for the Navy Atlantic Division Naval Facilities Engineering Command, Norfolk, Virginia.

Baker Environmental, Inc. (Baker). December 1996. Long-Term Monitoring Work Plans for Remedial Investigation Sites. Prepared for the Navy Atlantic Division Naval Facilities Engineering Command, Norfolk, Virginia.

TABLES

TABLE 1

SUMMARY OF WELL CONSTRUCTION DETAILS
OPERABLE UNIT NO. 7 - SITE 1
MONITORING AND O&M SUPPORT, CTO-0367
MCB, CAMP LEJEUNE, NORTH CAROLINA

Monitoring Well Number	Date Installed	Top of Casing Elevation (feet, msl)	Ground Surface Elevation (feet, msl)	Boring Depth (feet, msl)	Well Depth (feet, msl)	Screen Interval Depth (feet, bgs)	Depth to Bentonite (feet, bgs)	Depth to Sand Pack (feet, bgs)	Stick-Up (feet, ags)
01-GW01	1984	16.50	13.3	NA	24.0	NA	NA	NA	3.2
01-GW02	1984	17.95	15.7	NA	23.0	9.0 - 23.0	NA	NA	2.3
01-GW03	1984	21.78	19.7	NA	23.0	9.0 - 23.0	NA	NA	2.1
01-GW10	1994	18.07	15.3	24.0	24.0	9.1 - 23.4	5.0	7.0	2.8
01-GW11	1994	13.18	10.4	17.0	17.0	2.0 - 16.4	0.5	1.0	2.8
01-GW12	1994	16.33	13.8	17.0	17.0	3.1 - 17.3	0.5	2.0	2.5
01-GW17	1994	23.00	20.1	25.0	25.0	10.0 - 24.3	6.0	8.0	3.0
01-GW17DW	1994	21.91	19.1	122	122	105 - 120	92.0	97.0	2.8

Notes:

ags = above ground surface
msl = mean sea level
bgs = below ground surface
NA = Information not available

TABLE 2

SUMMARY OF WELL CONSTRUCTION DETAILS
OPERABLE UNIT NO. 7 - SITE 28
MONITORING AND O&M SUPPORT, CTO-0367
MCB, CAMP LEJEUNE, NORTH CAROLINA

Monitoring Well Number	Date Installed	Top of Casing Elevation (feet, msl)	Ground Surface Elevation (feet, msl)	Boring Depth (feet, msl)	Well Depth (feet, msl)	Screen Interval Depth (feet, bgs)	Depth to Bentonite (feet, bgs)	Depth to Sand Pack (feet, bgs)	Stick-Up (feet, ags)
28-GW01	1994	7.34	4.8	17.0	17.0	2.5 - 16.2	0.0	1.5	2.5
28-GW01DW	1994	7.49	5.5	134	133	117 - 132	107	111	2.1
28-GW02	1984	5.96	4.8	NA	16.5	2.5 - 16.5	NA	NA	1.6
28-GW04	1984	8.17	4.4	NA	29.0	NA	NA	NA	3.8
28-GW07	1994	6.62	3.8	18.0	18.0	2.5 - 17.5	0.0	0.5	2.8
28-GW07DW	1994	6.03	3.6	132	131	114 - 129	104	109	2.4
28-GW08	1995	14.16	11.6	24.0	24.0	7.9 - 22.7	4.0	6.0	2.6

Notes:

ags = above ground surface
msl = mean sea level
bgs = below ground surface
NA = Information not available

TABLE 3

SUMMARY OF GROUNDWATER FIELD PARAMETERS
OPERABLE UNIT NO. 7 - SITE 1
MONITORING AND O&M SUPPORT, CTO-0367
MCB, CAMP LEJEUNE, NORTH CAROLINA

Well Number (Sample Date)	Measuring Time	Well Volumes	Field Parameters				
			Dissolved Oxygen (mg/L)	Specific Conductance (µmhos/cm)	Temperature (°C)	pH (S.U.)	Turbidity (N.T.U.)
01-GW01 (08-08-97)	0925	1.0	2.5	303	22.8	6.85	44.7
	0935	1.5	2.7	409	21.8	6.77	19.3
	0945	2.0	2.9	405	21.7	6.74	11.4
	0955	2.5	2.5	403	21.9	6.76	9.5
	1005	3.0	2.6	407	21.9	6.74	6.8
01-GW02 (08-08-97)	1338	1.0	1.3	474	22.2	6.12	50
	1348	2.0	1.7	476	22.1	6.14	16
	1400	3.0	1.3	483	21.9	6.38	4.0
01-GW03 (08-08-97)	1223	1.0	3.0	166	24.5	6.06	18
	1233	2.0	3.5	160	25.8	6.06	4.0
	1243	3.0	2.9	157	25.7	6.05	4.0
01-GW10 (08-08-97)	1521	1.0	2.5	576	21.2	6.73	54.2
	1532	1.5	2.5	589	21.4	6.75	38.1
	1543	2.0	2.5	603	21.8	6.73	26.5
	1554	2.5	2.5	582	21.2	6.77	22.3
	1605	3.0	2.5	563	20.8	6.80	19.1
	1616	3.5	2.6	569	20.9	6.79	14.7
	1627	4.0	2.5	577	21.0	6.80	12.9
01-GW11 (08-08-97)	1346	1.0	2.8	448	22.4	6.88	23.7
	1354	2.0	2.5	444	22.2	6.89	13.7
	1403	3.0	2.6	446	22.3	6.92	7.8
	1412	4.0	2.5	442	22.3	6.92	5.6
01-GW12 (08-08-97)	1220	1.0	2.5	221	21.4	5.78	7.9
	1232	2.0	2.2	216	21.5	5.74	6.8
	1244	3.0	2.1	214	21.6	5.72	4.2
	1256	4.0	2.2	212	21.5	5.74	3.2
01-GW17 (08-08-97)	0852	1.0	1.5	486	21.2	6.11	8.7
	0904	2.0	1.2	611	21.1	6.10	4.2
	0915	3.0	1.0	632	21.1	6.11	2.4
01-GW17DW (08-08-97)	0948	1.0	1.0	239	20.7	6.08	5.6
	1029	2.0	1.0	226	20.3	6.07	3.0
	1125	3.0	1.4	231	20.8	6.06	5.0

Notes:

N.T.U. = Nephelometric Turbidity Units
S.U. = Standard Units
µmhos/cm = micro ohms per centimeter
°C = Degrees Centigrade
mg/L = Milligrams per liter

TABLE 4

SUMMARY OF GROUNDWATER FIELD PARAMETERS
OPERABLE UNIT NO. 7 - SITE 28
MONITORING AND O&M SUPPORT, CTO-0367
MCB, CAMP LEJEUNE, NORTH CAROLINA

Well Number (Sample Date)	Measuring Time	Well Volumes	Field Parameters				
			Dissolved Oxygen (mg/L)	Specific Conductance (µmhos/cm)	Temperature (°C)	pH (S.U.)	Turbidity (N.T.U.)
28-GW01 (08-07-97)	0831	1.0	0.7	2043	20.1	6.85	63
	0842	2.0	0.7	1795	20.3	7.07	13
	0850	3.0	0.8	1707	20.0	7.23	2.1
28-GW01DW (08-07-97)	0905	0.5	1.0	4268	19.8	7.47	4.3
	0950	1.0	1.3	4640	20.2	7.89	3.1
	1035	1.5	1.4	4701	20.1	7.97	3.2
	1120	2.0	1.4	4696	20.1	8.29	1.8
	1205	2.5	1.3	4709	20.2	8.23	1.7
	1250	3.0	1.5	4725	20.1	8.25	1.4
28-GW02 (08-06-97)	1636	1.0	1.3	1004	21.7	7.01	5.0
	1649	2.0	1.2	1033	21.6	7.01	4.2
	1703	3.0	1.2	1048	22.1	7.07	3.8
28-GW04 (08-07-97)	1505	1.0	0.5	437	21.8	7.16	5.1
	1515	2.0	0.8	457	21.1	7.23	3.7
	1530	3.0	0.8	471	20.9	7.07	3.4
28-GW07 (08-07-97)	1320	1.0	1.8	1463	23.0	6.63	10
	1329	2.0	1.4	1557	23.0	6.63	8.3
	1336	3.0	0.7	1577	22.7	6.55	8.1
28-GW07DW (08-06-97)	1025	0.5	1.1	154	20.0	8.60	2.7
	1110	1.0	1.3	210	20.1	8.76	2.4
	1155	1.5	0.8	252	20.0	9.01	1.9
	1240	2.0	1.3	250	19.7	7.84	2.0
	1330	2.5	1.3	246	19.5	7.68	1.8
	1410	3.0	1.3	258	19.9	7.45	2.1
28-GW08 (08-06-97)	1642	1.0	0.7	1773	21.3	7.05	16
	1655	2.0	1.2	1714	21.2	7.28	9.3
	1710	3.0	1.2	1575	21.1	7.27	3.7

Notes:

N.T.U. = Nephelometric Turbidity Units
S.U. = Standard Units
µmhos/cm = micro ohms per centimeter
°C = Degrees Centigrade
mg/L = milligrams per liter

TABLE 5

SAMPLING SUMMARY - AUGUST 1997
OPERABLE UNIT NO. 7 - SITE 1
MONITORING AND O&M SUPPORT, CTO-0367
MCB, CAMP LEJEUNE, NORTH CAROLINA

Location	Media	TCL Volatiles[1]	Laboratory Sample Identification
01-GW01	Groundwater	X	IR01-GW01-97C
01-GW02	Groundwater	X	IR01-GW02-97C
01-GW03	Groundwater	X	IR01-GW03-97C
01-GW10	Groundwater	X	IR01-GW10-97C
01-GW11	Groundwater	X	IR01-GW11-97C
01-GW12	Groundwater	X	IR01-GW12-97C
01-GW17	Groundwater	X	IR01-GW17-97C
01-GW17DW	Groundwater	X	IR01-GW17DW-97C

Notes:

(1) Target Compound List Volatiles by U.S. Environmental Protection Agency, Contract Laboratory Program, Statement of Work, Document Number OLM01.8.

X = Requested analysis

TABLE 6

SAMPLING SUMMARY - AUGUST 1997
OPERABLE UNIT NO. 7 - SITE 28
MONITORING AND O&M SUPPORT, CTO-0367
MCB, CAMP LEJEUNE, NORTH CAROLINA

Location	Media	TAL Metals[1]	Laboratory Sample Identification
28-GW01	Groundwater	X	IR28-GW01-97C
28-GW01DW	Groundwater	X	IR28-GW01DW-97C
28-GW02	Groundwater	X	IR28-GW02-97C
28-GW04	Groundwater	X	IR28-GW04-97C
28-GW07	Groundwater	X	IR28-GW07-97C
28-GW07DW	Groundwater	X	IR28-GW07DW-97C
28-GW08	Groundwater	X	IR28-GW08-97C
28-SW01	Surface Water	X	IR28-SW01-97C
28-SW02	Surface Water	X	IR28-SW02-97C
28-SW03	Surface Water	X	IR28-SW03-97C
28-SD01	Sediment	X	IR28-SD01-97C
28-SD02	Sediment	X	IR28-SD02-97C
28-SD03	Sediment	X	IR28-SD03-97C

Notes:

[1] Target Analyte List Metals by U.S. Environmental Protection Agency, Contract Laboratory Protocol, Statement of Work, Document Number ILM03.0.

X = Requested analysis

TABLE 7

SUMMARY OF WATER LEVEL MEASUREMENTS
OPERABLE UNIT NO. 7 - SITE 1
MONITORING AND O&M SUPPORT, CTO-0367
MCB, CAMP LEJEUNE, NORTH CAROLINA

Well ID	Reference Elevation [1]	SWE (Date 07-30-96)	SWE (Date 02-24-97)	SWL (Date 08-08-97)	SWE (Date 08-08-97)
01-GW01	16.50	9.04	8.90	9.07	7.43
01-GW02	17.95	8.43	8.35	11.16	6.79
01-GW03	21.78	8.37	8.51	15.01	6.77
01-GW10	18.07	7.01	6.70	12.75	5.32
01-GW11	13.18	8.28	7.93	6.70	6.48
01-GW12	16.33	9.65	9.43	8.50	7.83
01-GW17	23.00	8.75	8.71	15.74	7.26
01-GW17DW	21.91	8.67	8.72	14.58	7.33

Notes:

[1] Top of well casing expressed in feet above mean sea level

SWL = Static water level taken from top of well casing
SWE = Static water elevation expressed in feet above mean sea level

TABLE 8

SUMMARY WATER LEVEL MEASUREMENTS
OPERABLE UNIT NO. 7 - SITE 28
MONITORING AND O&M SUPPORT, CTO-0367
MCB, CAMP LEJEUNE, NORTH CAROLINA

Well ID	Reference Elevation [1]	SWE (Date 07-30-96)	SWE (Date 02-07-97)	SWL (Date 08-11-97)	SWE (Date 08-11-97)
28-GW01	7.34	2.36	2.18	6.44	0.90
28-GW01DW	7.49	1.71	1.92	6.89	0.60
28-GW02	5.96	2.24	1.75	4.92	1.04
28-GW03	5.90	3.14	3.05	3.80	2.10
28-GW04	8.17	3.32	2.98	6.31	1.86
28-GW06	19.98	2.43	4.57	19.38	0.60
28-GW07	6.62	3.24	2.41	5.37	1.25
28-GW07DW	6.03	2.71	2.57	4.51	1.52
28-GW08	13.27	1.78	0.56	12.49	0.78

Notes:

[1] Top of well casing expressed in feet above mean sea level

SWL = Static water level taken from top of well casing
SWE = Static water elevation expressed in feet above mean sea level

TABLE 9

TRIP BLANK ANALYTICAL RESULTS
OPERABLE UNIT NO. 7 - SITE 1
MONITORING AND O&M SUPPORT, CTO-0367
MCB, CAMP LEJEUNE, NORTH CAROLINA

SAMPLE ID	IR01-TB01-97C
DATE SAMPLED	08/08/97
VOLATILES (ug/L)	
CHLOROMETHANE	10 U
BROMOMETHANE	10 U
VINYL CHLORIDE	10 U
CHLOROETHANE	10 U
METHYLENE CHLORIDE	10 U
ACETONE	10 U
CARBON DISULFIDE	10 U
1,1-DICHLOROETHENE	10 U
1,1-DICHLOROETHANE	10 U
1,2-DICHLOROETHENE (TOTAL)	10 U
CHLOROFORM	10 U
1,2-DICHLOROETHANE	10 U
2-BUTANONE	10 U
1,1,1-TRICHLOROETHANE	10 U
CARBON TETRACHLORIDE	10 U
BROMODICHLOROMETHANE	10 U
1,2-DICHLOROPROPANE	10 U
CIS-1,3-DICHLOROPROPENE	10 U
TRICHLOROETHENE	10 U
DIBROMOCHLOROMETHANE	10 U
1,1,2-TRICHLOROETHANE	10 U
BENZENE	10 U
TRANS-1,3-DICHLOROPROPENE	10 U
BROMOFORM	10 U
4-METHYL-2-PENTANONE	10 U
2-HEXANONE	10 U
TETRACHLOROETHENE	10 U
1,1,2,2-TETRACHLOROETHANE	10 U
TOLUENE	10 U
CHLOROBENZENE	10 U
ETHYLBENZENE	10 U
STYRENE	10 U
XYLENE (TOTAL)	10 U

U = Not Detected
ug/L = Micrograms per liter

TABLE 10

SUMMARY OF GROUNDWATER ANALYTICAL RESULTS - AUGUST 1997
OPERABLE UNIT NO. 7 - SITE 1
MONITORING AND O&M SUPPORT, CTO-0367
MCB, CAMP LEJEUNE, NORTH CAROLINA

Fraction	Detected Contaminants	Comparison Criteria		Concentration Range		Location of Maximum Detection	Detection Frequency	Detections Above	
		NCWQS	MCL	Min.	Max.			NCWQS	MCL
Volatile Organics	1,2-Dichloroethene (total)	70	70	16	16	01-GW10	1/8	0/8	0/8
	Xylene (Total)	530	10,000	280	280	01-GW12	1/8	0/8	0/8

Notes:

Concentrations presented in micrograms per liter (µg/L) or parts per billion.

MCL = Federal Maximum Contaminant Level. Maximum permissible level of a contaminant in water which is delivered to users of public water systems (U.S. Environmental Protection Agency - Drinking Water Regulations and Health Advisories).

NCWQS = North Carolina Water Quality Standards (North Carolina Administrative Code, Title 15A, Subchapter 2L).

TABLE 11

POSITIVE DETECTIONS IN GROUNDWATER
OPERABLE UNIT NO. 7 - SITE 1
MONITORING AND O&M SUPPORT, CTO-0367
MCB, CAMP LEJEUNE, NORTH CAROLINA

SAMPLE ID	IR01-GW10-97C	IR01-GW12-97C
DATE SAMPLED	08/08/97	08/08/97
VOLATILES (ug/L)		
1,2-DICHLOROETHENE (TOTAL)	16	100 U
XYLENE (TOTAL)	10 U	280

U = Not detected
ug/L = microgram perliter

TABLE 12

VOLATILE COMPOUNDS IN GROUNDWATER
MAY 1994 - AUGUST 1997
OPERABLE UNIT NO. 7 - SITE 1
MONITORING AND O&M SUPPORT, CTO-0367
MCB, CAMP LEJEUNE, NORTH CAROLINA

Monitoring Well/ Volatile Compound	May, 1994[1]	December, 1994[2]	August, 1995[3]	July, 1996[3]	February, 1997[3]	August, 1997 [3]
1-GW01	ND	ND	ND	ND	ND	ND
1-GW02	ND	ND	ND	ND	ND	ND
1-GW03	ND	ND	ND	ND	ND	ND
1-GW10						
Vinyl Chloride	2	4	ND	ND	ND	ND
1,2-Dichloroethene(Total)	10	21	23	19	16	16
1,1-Dichloroethene (Total)	ND	2	ND	ND	ND	ND
Trichloroethene	4	8	4	ND	3 J	ND
1-GW11						
Trichloroethene	1	ND	ND	ND	ND	ND
1-GW12						
Toluene	ND	ND	4	ND	ND	ND
Ethylbenzene	ND	ND	4	ND	ND	ND
Xylenes	3	9	150	6J	ND	280
1-GW17						
1,2-Dichloroethene (Total)	1	ND	ND	ND	ND	ND
Trichloroethene	27	18	ND	ND	3 J	ND
1-GW17DW	ND	ND	ND	ND	ND	ND

Notes:

Concentrations expressed in micrograms per liter (µg/L) or parts per billion.

(1) Samples collected using a Teflon bailer
(2) Samples collected using an environmental submersible pump
(3) Samples collected using a peristaltic pump

ND = Not detected

TABLE 13

SUMMARY OF GROUNDWATER ANALYTICAL RESULTS - AUGUST 1997
OPERABLE UNIT NO. 7 - SITE 28
MONITORING AND O&M SUPPORT, CTO-0367
MCB, CAMP LEJEUNE, NORTH CAROLINA

Fraction	Detected Analytes	Comparison Criteria		Concentration Range		Location of Maximum Detection	Detection Frequency	Detections Above	
		NCWQS	MCL	Min.	Max.			NCWQS	MCL
Total Metals	Aluminum	NE	200 (1)	41.6	64.0	28-GW07	2/7	NA	0
	Antimony	NE	6	2.1	44.5	28-GW07	2/7	NA	1
	Arsenic	50	50	3.1	5.1	28-GW07	2/7	0	0
	Barium	2,000	2,000	16.9	808	28-GW02	7/7	0	0
	Chromium	50	100	0.7	1.3	28-GW07	2/7	0	0
	Copper	1,000	1,300	1.1	43.8	28-GW07	7/7	0	0
	Iron	300	300 (1)	131	24,900	28-GW07	6/7	4	4
	Lead	15	15	5.2	30.6	28-GW07	2/7	1	1
	Manganese	50	50 (1)	1.7	906	28-GW07	7/7	5	5
	Mercury	1.1	2.0	0.11	0.11	28-GW07	1/7	0	0
	Zinc	2,100	5,000 (1)	0.79	106	28-GW07	7/7	0	0

Notes:

Concentrations presented in micrograms per liter (µg/L) or parts per billion.

(1) - Secondary Federal Maximum Contaminant Level (Refer to MCL Note Below).

MCL = Federal Maximum Contaminant Level. Maximum permissible level of a contaminant in water which is delivered users of public water systems (U.S. Environmental Protection Agency - Drinking Water Regulations and Health Advisories).
NA = Not applicable
NCWQS = North Carolina Water Quality Standards (North Carolina Administrative Code, Title 15A, Subchapter 2L).
NE = Not Established

TABLE 14

POSITIVE DETECTIONS IN GROUNDWATER
OPERABLE UNIT NO. 7 - SITE 28
MONITORING AND O&M SUPPORT, CTO-0367
MCB, CAMP LEJEUNE, NORTH CAROLINA

SAMPLE ID	IR28-GW01-97C	IR28-GW01DW-97C	IR28-GW02-97C	IR28-GW04-97C	IR28-GW07-97C	IR28-GW07DW-97C	IR28-GW08-97C
DATE SAMPLED	08/07/97	08/07/97	08/06/97	08/07/97	08/07/97	08/07/97	08/07/97
TOTAL METALS (ug/L)							
ALUMINUM, TOTAL	28.6 U	28.6 U	28.6 U	28.6 U	64	28.6 U	41.6
ANTIMONY, TOTAL	2.1	1.9 U	1.9 U	1.9 U	44.5	1.9 U	1.9 U
ARSENIC, TOTAL	2.5 U	2.5 U	2.5 U	2.5 U	5.1	2.5 U	3.1
BARIUM, TOTAL	115	23.3	808	16.9	407	17.3	446
CADMIUM, TOTAL	0.4 U	0.4 U	0.4 U	0.4 U	0.58	0.4 U	0.4 U
CALCIUM, TOTAL	173000	108000	56400	73400	190000	37800	76300
CHROMIUM, TOTAL	0.7 U	0.7 U	0.7 U	0.7 U	1.3	0.7 U	0.7
COBALT, TOTAL	0.7 U	0.7 U	0.7 U	1.3	1.7	0.7 U	0.7 U
COPPER, TOTAL	1.4	1.6	1.5	1.3	43.8	1.1	2.5
IRON, TOTAL	1150	233	5090	131	24900	16.1 U	7470
LEAD, TOTAL	1.5 U	1.5 U	1.5 U	1.5 U	30.6	1.5 U	5.2
MAGNESIUM, TOTAL	30000	19300	26000	2460	23300	548	26500
MANGANESE, TOTAL	66.2	113	196	48.9	906	1.7	319
MERCURY, TOTAL	0.1 U	0.1 U	0.1 U	0.1 U	0.11	0.1 U	0.1 U
NICKEL, TOTAL	0.8 U	0.8 U	0.8 U	1.2	8.5	0.8 U	1.1
POTASSIUM, TOTAL	26400	31800	52100	1540	18300	1520	67600
SODIUM, TOTAL	86900	786000	81900	12900	67900	6230	163000
VANADIUM, TOTAL	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	1.1	0.8 U
ZINC, TOTAL	3.4	3	2.3	2.5	106	0.79	13.1

U = Not detected
ug/L = micrograms per liter

TABLE 15

METALS IN GROUNDWATER ABOVE SCREENING STANDARDS
AUGUST 1995 - AUGUST 1997
OPERABLE UNIT NO. 7 - SITE 28
MONITORING AND O&M SUPPORT, CTO-0367
MCB, CAMP LEJEUNE, NORTH CAROLINA

Monitoring Well/ Volatile Compound	MCL	NCWQS	August, 1995	July, 1996	February, 1997	August, 1997
28-GW01						
Antimony	6	NA	ND	ND	25	NA
Iron	NA	300	1,690	1,840	1,930	1,150
Manganese	NA	50	120	250	214	66.2
28-GW01DW						
Iron	NA	300	ND	364	374	NA
Manganese	NA	50	92.8	109	119	113
28-GW02						
Aluminum	NA	200	ND	137	ND	ND
Antimony	6	NA	ND	14.7	ND	ND
Iron	NA	300	4,080	4,320	5,150	5,090
Manganese	NA	50	191	174	185	196
28-GW04						
Aluminum	NA	200	ND	121	ND	ND
Manganese	NA	50	56.1	67	ND	48.9
28-GW07						
Aluminum	NA	200	ND	56.1	153	64
Antimony	6	NA	ND	19.2	23.6	44.5
Cadmium	5	5	10.7	ND	ND	NA
Iron	NA	300	23,000	36,300	26,600	24,900
Manganese	NA	50	431	860	460	906
28-GW07DW						
Aluminum	NA	200	ND	72	ND	ND
28-GW08						
Iron	NA	300	1,180	3,910	4,000	7,470
Manganese	NA	50	160	212	175	319

Notes:

Concentrations expressed in micrograms per liter (μg/L) or parts per billion.
Samples collected using a peristaltic pump

MCL = Federal Maximum Contaminant Level. Maximum permissible level of a contaminant in water which is delivered to any user of a public water system. (U.S. Environmental Protection Agency - Drinking Water Regulations and Health Advisories.)
NA = Not applicable or analyte detected at a oncentration less than screening standard.
NCWQS = North Carolina Water Quality Standards. Values Applicable to Groundwater (North Carolina Administrative Code, Title 15A, Subchapter 2L).
ND = Not detected above screening value.
NE = Not Established

TABLE 16

SUMMARY OF SURFACE WATER ANALYTICAL RESULTS - AUGUST 1997
OPERABLE UNIT NO. 7 - SITE 28
MONITORING AND O&M SUPPORT, CTO-0367
MCB, CAMP LEJEUNE, NORTH CAROLINA

Fraction	Detected Analytes	Comparison Criteria		Concentration Range		Location of Maximum Detection	Detection Frequency	Detections Above	
		NCWQS	Region IV	Min.	Max.			NCWQS	Region IV
Total Metals	Aluminum	NE	NE	332	399	28-SW01	3/3	NA	NA
	Arsenic	50	36	2.9	5.8	28-SW01	3/3	0	0
	Barium	NE	NE	16.0	16.6	28-SW03	3/3	NA	NA
	Chromium	20	50	0.84	0.84	28-SW01	1/3	0	0
	Copper	3.0	2.9	2.0	2.9	28-SW03	3/3	0	0
	Iron	NE	NE	382	422	28-SW01	3/3	NA	NA
	Lead	25	8.5	1.6	2.7	28-SW03	2/3	0	0
	Manganese	NE	NE	10.5	11.1	28-SW03	3/3	NA	NA
	Nickel	8.3	8.3	1.2	1.6	28-SW02	3/3	0	0
	Zinc	86	86	3.2	3.6	28-SW02	3/3	0	0

Notes:

Concentrations presented in micrograms per liter (µg/L) or parts per billion.

NA = Not Applicable
NCWQS = North Carolina Water Quality Standards (North Carolina Administrative Code, Title 15A, Subchapter 2B, Rule .0220).
NE = Not Established
Region IV = U.S. Environmental Protection Agency, Region IV - Surface Water Screening Values Protective of Saltwater Aquatic Life.

TABLE 17

POSITIVE DETECTIONS IN SURFACE WATER
OPERABLE UNIT NO. 7 - SITE 28
MONITORING AND O&M SUPPORT, CTO-0367
MCB, CAMP LEJEUNE, NORTH CAROLINA

SAMPLE ID	IR28-SW01-97C	IR28-SW02-97C	IR28-SW03-97C
DATE SAMPLED	08/07/97	08/07/97	08/07/97
TOTAL METALS (ug/L)			
ALUMINUM, TOTAL	399	358	332
ARSENIC, TOTAL	5.8	4.2	2.9
BARIUM, TOTAL	16	16.3	16.6
CALCIUM, TOTAL	245000	250000	248000
CHROMIUM, TOTAL	0.84	0.7 U	0.7 U
COBALT, TOTAL	0.7 U	0.9	0.7 U
COPPER, TOTAL	2	2.7	2.9
IRON, TOTAL	422	416	382
MAGNESIUM, TOTAL	847000	878000	863000
MANGANESE, TOTAL	10.8	10.5	11.1
NICKEL, TOTAL	1.5	1.6	1.2
POTASSIUM, TOTAL	487000	303000	300000
SODIUM, TOTAL	6480000	6730000	6640000
VANADIUM, TOTAL	0.8 U	0.95	0.8 U
ZINC, TOTAL	3.5	3.6	3.2

U = Not detected
ug/L = micrograms per liter

TABLE 18

METALS IN SURFACE WATER ABOVE SCREENING CRITERIA
JULY 1996 - AUGUST 1997
OPERABLE UNIT NO. 7 - SITE 28
MONITORING AND O&M SUPPORT, CTO-0367
MCB, CAMP LEJEUNE, NORTH CAROLINA

Sampling Station/Analyte	NCWQS	Region IV	July, 1996	February, 1997	August, 1997
28-SW01					
Cadmium	5.0	9.3	ND	NA	ND
Copper	3.0	2.9	8.9	ND	NA
Lead	25	8.5	37.8	ND	ND
28-SW02					
Cadmium	5.0	9.3	ND	6.3	ND
Copper	3.0	2.9	5.9	ND	NA
Lead	25	8.5	14.7	NA	ND
28-SW03					
Cadmium	5.0	9.3	ND	6.1	ND
Copper	3.0	2.9	28.4	NA	NA
Lead	25	8.5	60	NA	ND

Notes:

Concentrations presented in micrograms per liter (μg/L) or parts per billion.

NA = Not Applicable or analyte detected at a concentration less than screening criteria.
NCWQS = North Carolina Salt Water Quality Standards (North Carolina Administrative Code, Title 15A, Subchapter 2B).
ND = Not Detected
Region IV = U.S. Environmental Protection Agency, Region IV - Surface Water Screening Values Protective of Aquatic Life.

TABLE 19

SUMMARY OF SEDIMENT ANALYTICAL RESULTS - AUGUST 1997
OPERABLE UNIT NO. 7 - SITE 28
MONITORING AND O&M SUPPORT, CTO-0367
MCB, CAMP LEJEUNE, NORTH CAROLINA

Fraction	Detected Analytes	NOAA	Concentration Range		Location of Maximum Detection	Detection Frequency	Detections Above Comparison Criteria
			Min.	Max.			
Metals	Aluminum	NE	636	863	28-SD02	3/3	NA
	Antimony	NE	0.46	0.55	28-SD02	2/3	NA
	Barium	NE	2.1	38.6	28-SD03	3/3	NA
	Chromium	81	1.2	3.2	28-SD03	3/3	0
	Copper	34	2.0	7.9	28-SD02	3/3	0
	Iron	NE	400	777	28-SD02	3/3	NA
	Lead	46.7	11.8	36.5	28-SD02	3/3	0
	Manganese	NE	2.2	4.0	28-SD03	3/3	NA
	Zinc	150	2.3	8.4	28-SD03	3/3	0

Notes:

Concentrations presented in milligrams per kilogram (mg/kg) or parts per million.

NA = Not applicable
NE = Not Established
NOAA = U.S. Environmental Protection Agency, Region IV - Adoption of Risk-Based Values for Aquatic Life from the National Oceanic and Atmospheric Administration (NOAA).

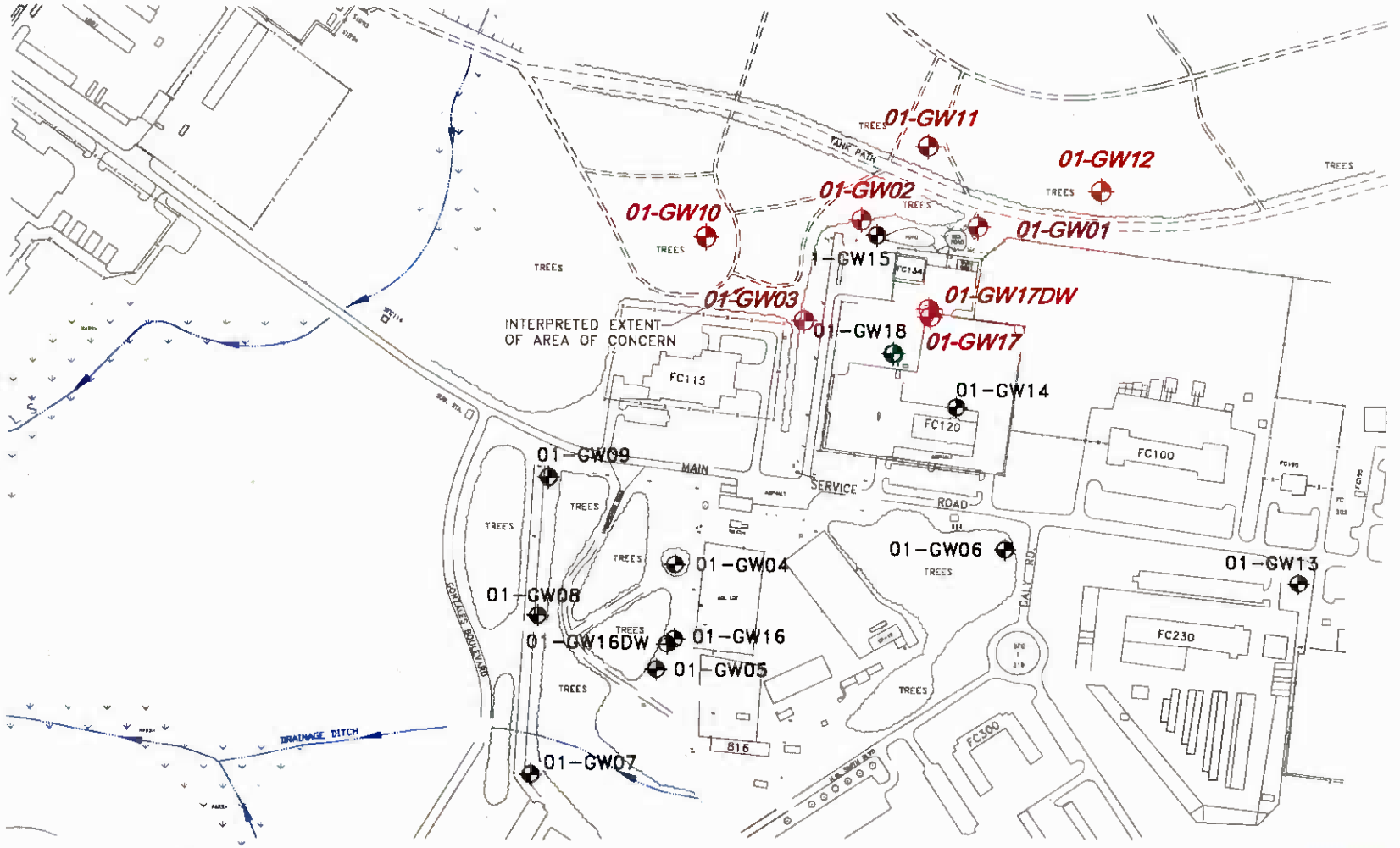
TABLE 20

POSITIVE DETECTIONS IN SEDIMENT
OPERABLE UNIT NO. 7 - SITE 28
MONITORING AND O&M SUPPORT, CTO-0367
MCB, CAMP LEJEUNE, NORTH CAROLINA

SAMPLE ID	IR28-SD01-97C	IR28-SD02-97C	IR28-SD03-97C
DATE SAMPLED	08/07/97	08/07/97	08/07/97
TOTAL METALS (mg/kg)			
ALUMINUM, TOTAL	636	863	706
ANTIMONY, TOTAL	0.47 U	0.55	0.46
BARIUM, TOTAL	2.7	2.1	38.6
CALCIUM, TOTAL	143	169	304
CHROMIUM, TOTAL	1.2	1.6	3.2
COPPER, TOTAL	2	7.9	6
IRON, TOTAL	400	777	764
LEAD, TOTAL	11.8	36.5	27.9
MAGNESIUM, TOTAL	289	381	381
MANGANESE, TOTAL	2.2	2.2	4
POTASSIUM, TOTAL	177	204	182
SODIUM, TOTAL	1590	1970	1800
VANADIUM, TOTAL	1.1	1.7	1.8
ZINC, TOTAL	2.3	3.6	8.4

U = Not detected
mg/kg = milligrams per kilogram

FIGURES



NOTES:
1.)SAMPLING LOCATIONS SHOWN IN SMALLER TYPE NOT PART OF MONITORING PROGRAM.
2.)MONITORING WELLS 01-GW15 AND 01-GW18 WERE DESTROYED.
3.)MONITORING WELL 01-GW05 WAS ABANDONED.

500 0 250 500
1 inch = 500 ft.

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LEGEND

01-GW07 – SHALLOW MONITORING WELL

01-GW16DW – DEEP MONITORING WELL

DIRECTION OF SURFACE WATER FLOW

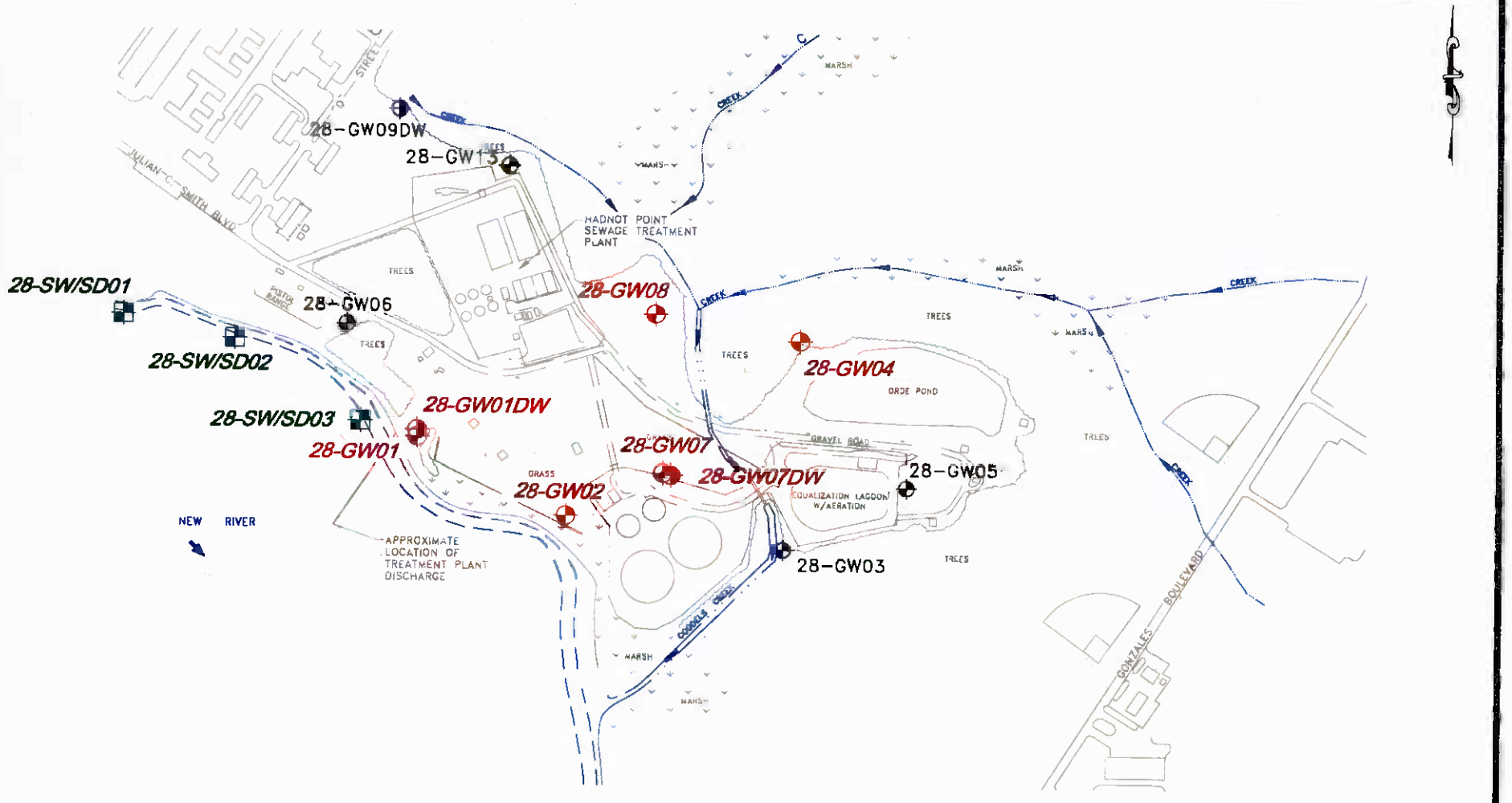
SOURCE: LANTDIV, FEBRUARY 1992 AND W.K. DICKSON & ASSOC., JUNE 1994

FIGURE 1
SAMPLING LOCATION MAP
OPERABLE UNIT NO. 7 – SITE 1
MONITORING AND O&M SUPPORT, CTO – 0367

MARINE CORPS BASE, CAMP LEJEUNE
NORTH CAROLINA

.36751.3WP

01779 JJ BRY



NOTE:
1.)SAMPLING LOCATIONS SHOWN IN SMALLER TYPE NOT PART OF MONITORING PROGRAM.

Baker
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LEGEND

28-GW01 – SHALLOW MONITORING WELL

28-GW01DW – DEEP MONITORING WELL

28-SW/SD01 – SURFACE WATER AND SEDIMENT SAMPLE STATION

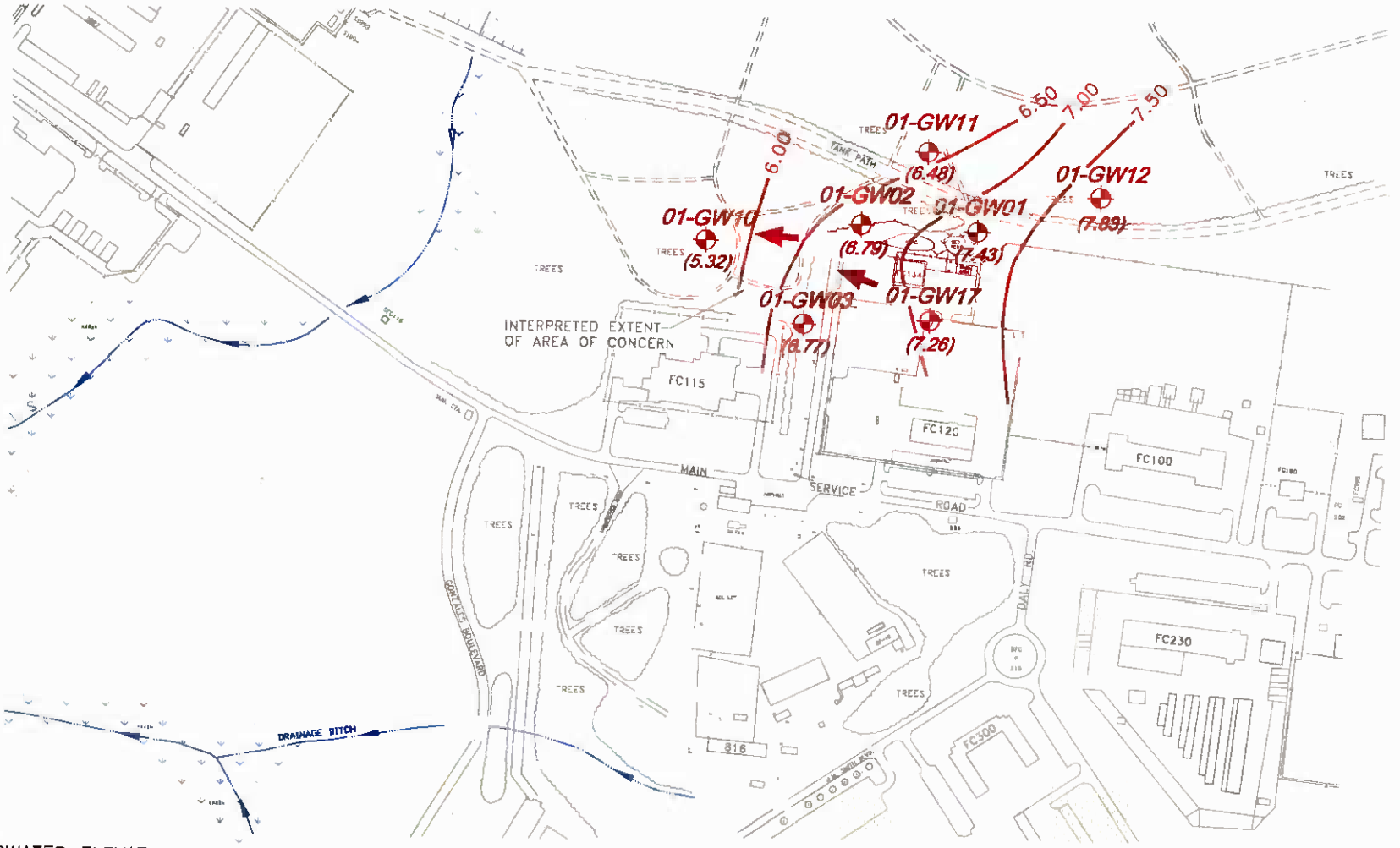
– DIRECTION OF SURFACE WATER FLOW

SOURCE: LANTDIV, FEBRUARY 1992 AND W.K. DICKSON, JUNE 1994

FIGURE 2
SAMPLING LOCATION MAP
OPERABLE UNIT NO. 7 – SITE 28
MONITORING AND O&M SUPPORT, CTO – 0367

MARINE CORPS BASE, CAMP LEJEUNE
NORTH CAROLINA

387514WP



NOTES:
1.)GROUNDWATER ELEVATION CONTOURS FEET ABOVE MEAN SEA LEVEL.
2.)STATIC READINGS COLLECTED AUGUST 8, 1997.

500 0 250 500
1 inch = 500 ft.

Baker
Baker Environmental, Inc.

LEGEND

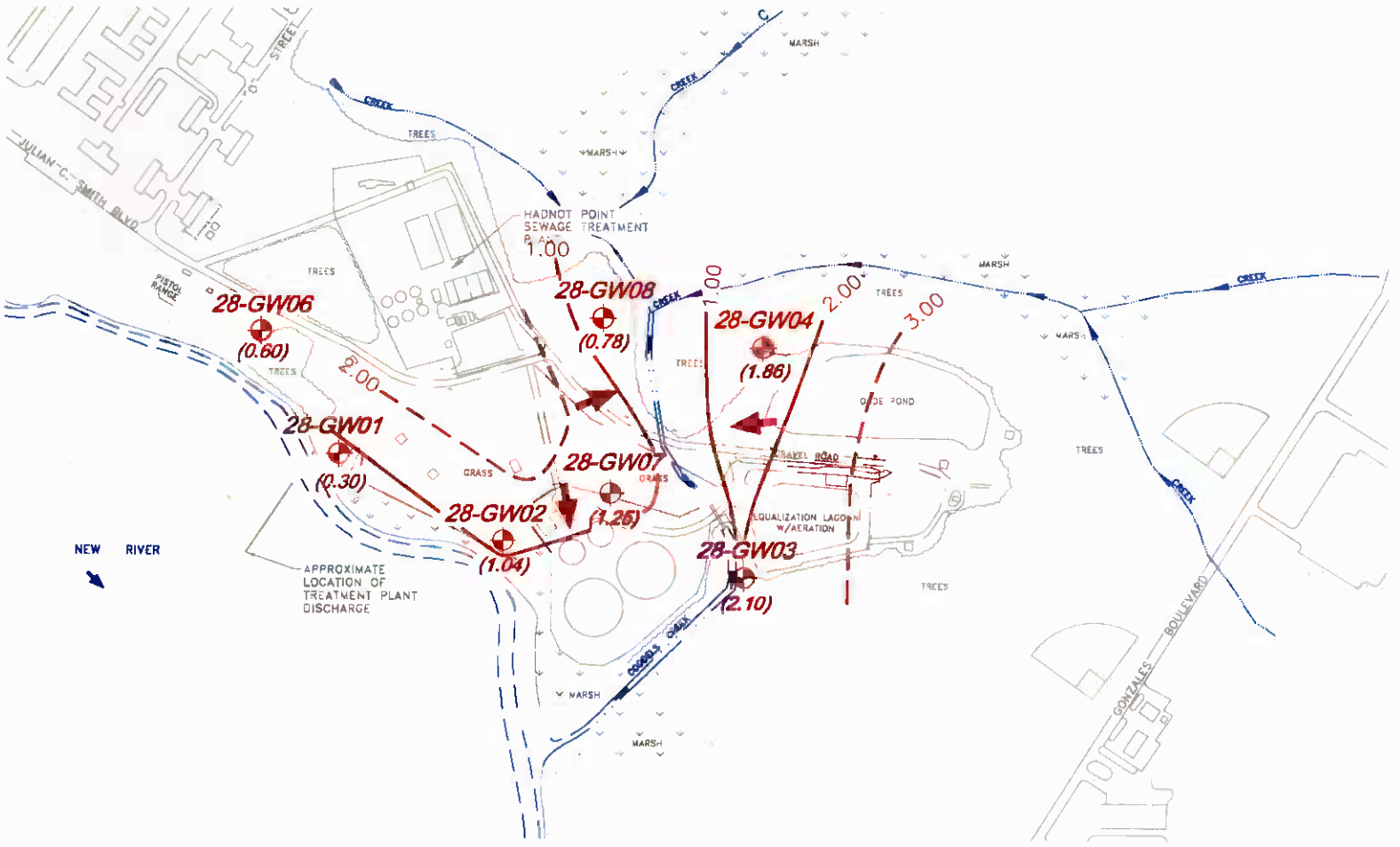
- 01-GW07 – SHALLOW MONITORING WELL
- (5.32) – GROUNDWATER ELEVATION
- 7.00 – GROUNDWATER ELEVATION CONTOUR
- – APPROXIMATE DIRECTION OF GROUNDWATER FLOW
- – DIRECTION OF SURFACE WATER FLOW

SOURCE: LANTDIV, FEBRUARY 1992 AND W.K. DICKSON & ASSOC., JUNE 1994

FIGURE 3
SHALLOW GROUNDWATER CONTOUR MAP
OPERABLE UNIT NO. 7 – SITE 1
MONITORING AND O&M SUPPORT, CTO – 0367

MARINE CORPS BASE, CAMP LEJEUNE
NORTH CAROLINA

367517WP



NOTES:
1.)GROUNDWATER ELEVATION CONTOURS EXPRESSED IN FEET ABOVE MEAN SEA LEVEL.
2.)STATIC READINGS COLLECTED AUGUST 11, 1997.

500 0 250 500
1 inch = 500 ft.

Baker
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LEGEND

28-GW01 SHALLOW MONITORING WELL

(1.86) GROUNDWATER ELEVATION

1.00 GROUNDWATER ELEVATION CONTOUR

APPROXIMATE DIRECTION OF GROUNDWATER FLOW

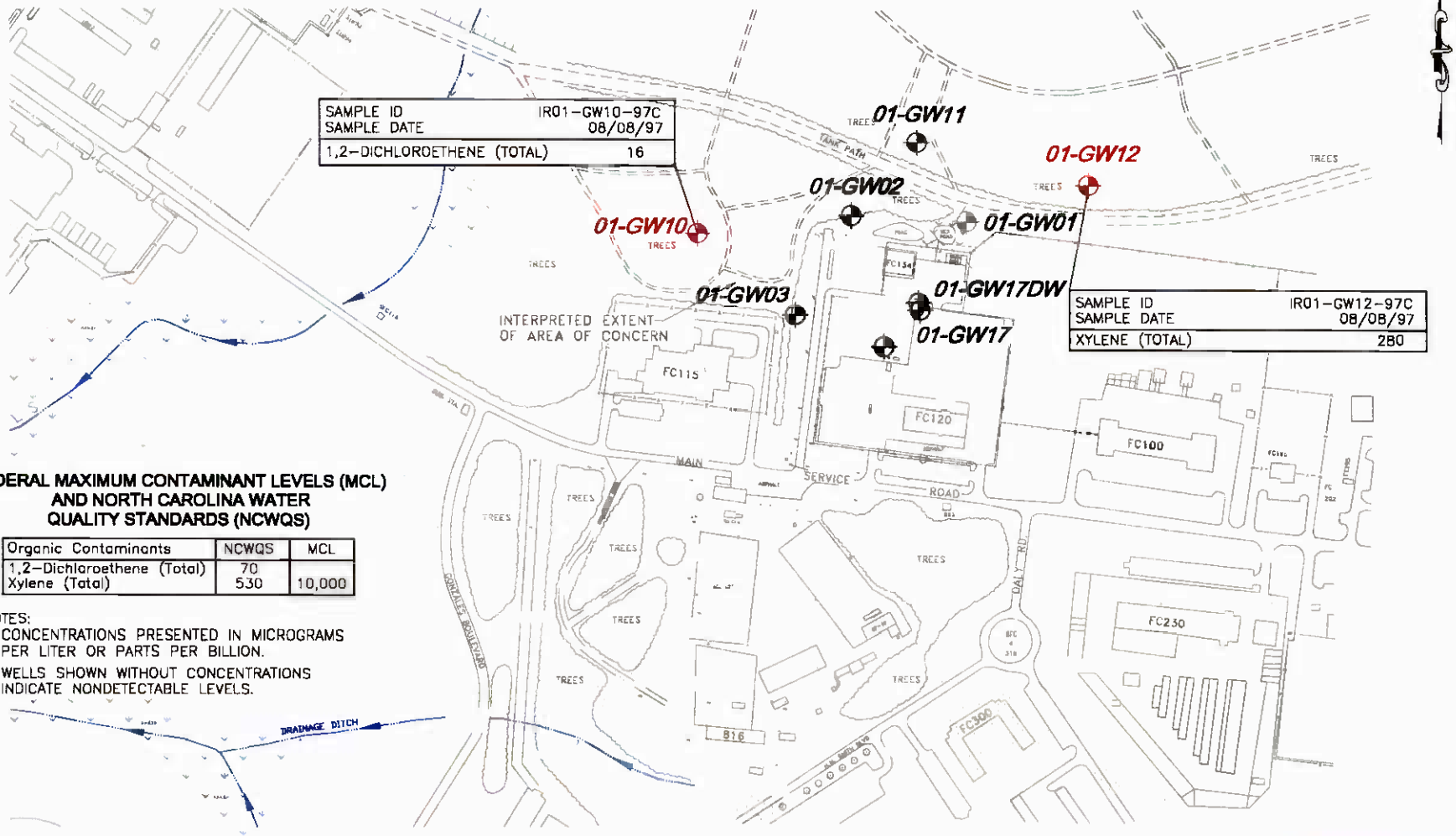
DIRECTION OF SURFACE WATER FLOW

SOURCE: LANTDIV, FEBRUARY 1992 AND W.K. DICKSON, JUNE 1994

FIGURE 4
SHALLOW GROUNDWATER CONTOUR MAP
OPERABLE UNIT NO. 7 – SITE 28
MONITORING AND O&M SUPPORT, CTO – 0367

MARINE CORPS BASE, CAMP LEJEUNE
NORTH CAROLINA

367516WP



FEDERAL MAXIMUM CONTAMINANT LEVELS (MCL) AND NORTH CAROLINA WATER QUALITY STANDARDS (NCWQS)

Organic Contaminants	NCWQS	MCL
1,2-Dichloroethene (Total)	70	
Xylene (Total)	530	10,000

NOTES:
1.)CONCENTRATIONS PRESENTED IN MICROGRAMS PER LITER OR PARTS PER BILLION.
2.)WELLS SHOWN WITHOUT CONCENTRATIONS INDICATE NONDETECTABLE LEVELS.

500 0 250 500
1 inch = 500 ft.

Baker
Baker Environmental Inc.

LEGEND

01-GW07 – SHALLOW MONITORING WELL

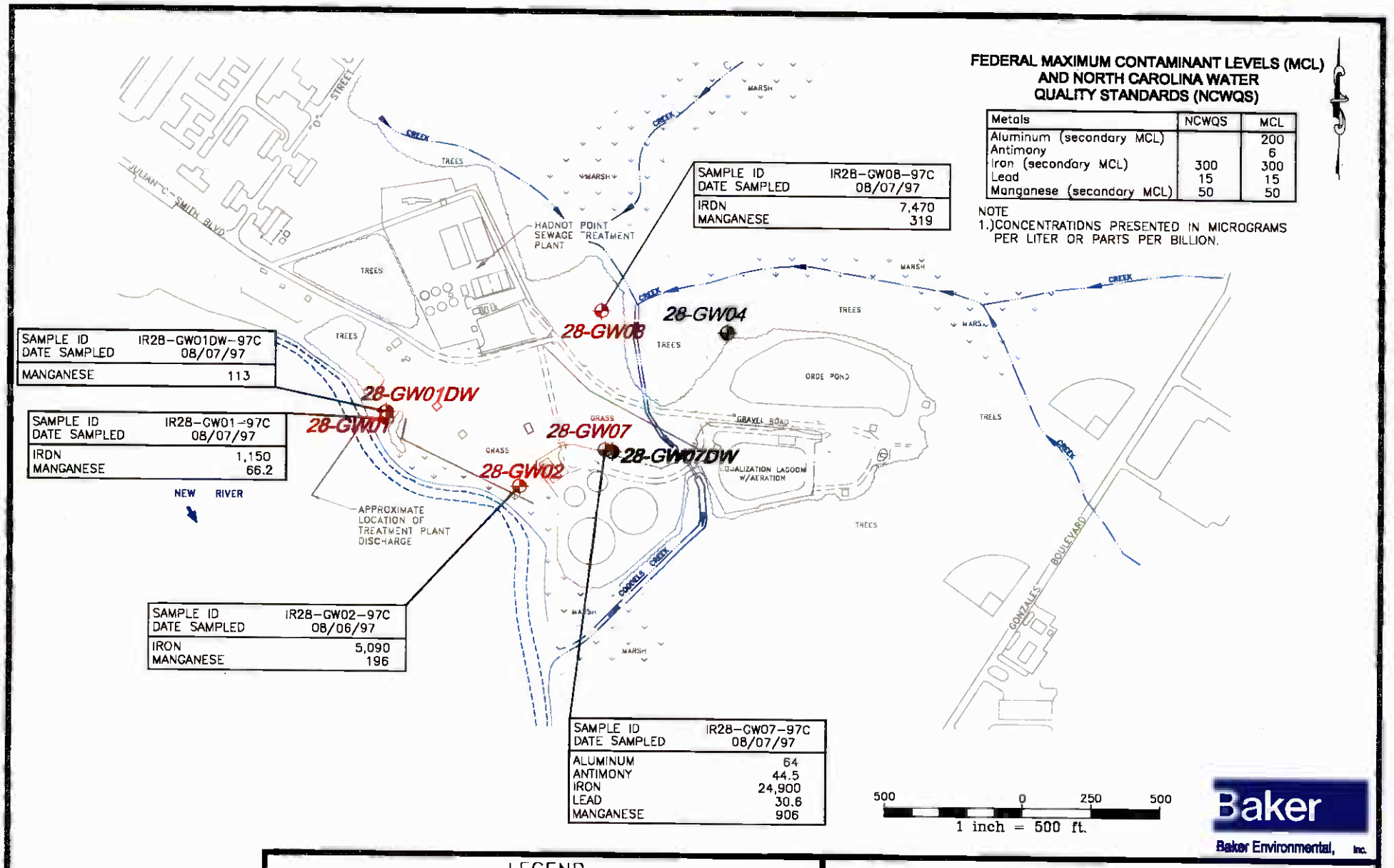
01-GW16DW – DEEP MONITORING WELL

DIRECTION OF SURFACE WATER FLOW

SOURCE: LANTDIV, FEBRUARY 1992 AND W.K. DICKSON & ASSOC., JUNE 1994

FIGURE 5
VOLATILE ORGANIC COMPOUNDS
IN GROUNDWATER
OPERABLE UNIT NO. 7 – SITE 1
MONITORING AND O&M SUPPORT, CTO – 0367
MARINE CORPS BASE, CAMP LEJEUNE
NORTH CAROLINA

367515WP


FEDERAL MAXIMUM CONTAMINANT LEVELS (MCL) AND NORTH CAROLINA WATER QUALITY STANDARDS (NCWQS)
Metals | NCWQS | MCL
Aluminum (secondary MCL) | | 200
Antimony | | 6
Iron (secondary MCL) | 300 | 300
Lead | 15 | 15
Manganese (secondary MCL) | 50 | 50
NOTE
1.)CONCENTRATIONS PRESENTED IN MICROGRAMS PER LITER OR PARTS PER BILLION.
SAMPLE ID IR28-GW08-97C
DATE SAMPLED 08/07/97
IRON 7,470
MANGANESE 319
SAMPLE ID IR28-GW01DW-97C
DATE SAMPLED 08/07/97
MANGANESE 113
SAMPLE ID IR28-GW01-97C
DATE SAMPLED 08/07/97
IRON 1,150
MANGANESE 66.2
SAMPLE ID IR28-GW02-97C
DATE SAMPLED 08/06/97
IRON 5,090
MANGANESE 196
SAMPLE ID IR28-GW07-97C
DATE SAMPLED 08/07/97
ALUMINUM 64
ANTIMONY 44.5
IRON 24,900
LEAD 30.6
MANGANESE 906
28-GW01
28-GW01DW
28-GW02
28-GW03
28-GW04
28-GW07
28-GW07DW
HADNOT POINT SEWAGE TREATMENT PLANT
APPROXIMATE LOCATION OF TREATMENT PLANT DISCHARGE
NEW RIVER
EQUALIZATION LAGOON W/AERATION
GRAVEL ROAD
ORDE POND
COOKELS CREEK
GONZALES BOULEVARD
JULIAN C. SMITH BLVD
TREES
MARSH
GRASS
500 0 250 500
1 inch = 500 ft.
Baker
Baker Environmental, Inc.
LEGEND
28-GW01 – SHALLOW MONITORING WELL
28-GW01DW – DEEP MONITORING WELL
– DIRECTION OF SURFACE WATER FLOW
SOURCE: LANTDIV, FEBRUARY 1992 AND W.K. DICKSON, JUNE 1994
FIGURE 6
METALS IN GROUNDWATER
ABOVE SCREENING STANDARDS
OPERABLE UNIT NO. 7 – SITE 28
MONITORING AND O&M SUPPORT, CTO – 0367
MARINE CORPS BASE, CAMP LEJEUNE
NORTH CAROLINA
367516WP

ATTACHMENTS

ATTACHMENT A
CHAIN-OF-CUSTODY DOCUMENTATION

RECRA LabNet Use Only

COC # 367-0101

Custody Transfer Record/Lab Work Request

RECRA LabNet
a division of Recra Environmental, Inc.

Page 1 of 1

Client Baker
Est. Final Proj. Sampling Date 8-22-97
Project # 367
Project Contact/Phone # Trebilcock 412-269-2051
RECRA Project Manager Ramirez
QC ____ Del ____ TAT ____
Date Rec'd ____ Date Due ____
Account # ____

Refrigerator #
#/Type Container — Liquid / Solid
Volume — Liquid / Solid
Preservatives

ANALYSES REQUESTED →

ORGANIC								INORG								
VOA	BNA	Pest/PCB	Herb					Metal	CN							Turn
RECRA LabNet Use Only																

MATRIX CODES:
S - Soil
SE - Sediment
SO - Solid
SL - Sludge
W - Water
O - Oil
A - Air
DS - Drum Solids
DL - Drum Liquids
L - EP/TCLP Leachate
WI - Wipe
X - Other
F - Fish

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected 1997	Time Collected													
	01-GW17-97C			W	8/8	0920	X												R
	01-GW17DW-97C			W	8/8	1130	X												
	01-GW03-97C			W	8/8	1255	X												
	01-GW02-97C			W	8/8	1405	X												
	01-GW01-97C			W	8/8	1010	X												
	01-GW12-97C			W	8/8	1300	X												
	01-GW11-97C			W	8/8	1415	X												
	01-GW10-97C			W	8/8	1630	X												
	01-TB01-97C			W	8/8	1700	X												

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Special Instructions:

VOA = Volatiles by CLP

Turn = turnaround R = Routine

FedEx # 525313 5893

DATE/REVISIONS:

1. ____
2. ____
3. ____
4. ____
5. ____
6. ____

RECRA LabNet Use Only

Samples were:
1) Shipped ___ or Hand Delivered ___ Airbill # ____
2) Ambient or Chilled
3) Received in Good Condition Y or N
4) Labels Indicate Properly Preserved Y or N
5) Received Within Holding Times Y or N

COC Tape was:
1) Present on Outer Package Y or N
2) Unbroken on Outer Package Y or N
3) Present on Sample Y or N
4) Unbroken on Sample Y or N

COC Record Present Upon Sample Rec't Y or N

Discrepancies Between Samples Labels and COC Record? Y or N
NOTES:

Relinquished by	Received by	Date	Time
T.T.	FedEx	8/9/97	1000

Relinquished by	Received by	Date	Time

97P-1424

COC# 367-7801

RECRA LabNet Use Only

Custody Transfer Record/Lab Work Request

RECRA LabNet
a division of Recra Environmental, Inc.

Client: Baker
Est. Final Proj. Sampling Date: 8-22-97
Project #: 367
Project Contact/Phone #: Trebilcock 412-269-2051
RECRA Project Manager: Ramirez
QC ____ Del ____ TAT ____
Date Rec'd ____ Date Due ____
Account # ____

Refrigerator #
#/Type Container: Liquid / Solid
Volume: Liquid / Solid
Preservatives

ANALYSES REQUESTED → ORGANIC: VOA, BNA, Pest/PCB, Herb; INORG: Metal, CN; Turn

RECRA LabNet Use Only

MATRIX CODES: S - Soil; SE - Sediment; SO - Solid; SL - Sludge; W - Water; O - Oil; A - Air; DS - Drum Solids; DL - Drum Liquids; L - EP/TCLP Leachate; WI - Wipe; X - Other; F - Fish

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected 1997	Time Collected	Metal	Turn
	28-GW02-97C			W	8/6	1707	X	R
	28-GW01-97C			W	8/7	0855		
	28-GW01DW-97C			W	8/7	1300		
	28-GW07DW-97C			W	8/7	1415		
	28-GW07-97C			W	8/7	1340		
	28-GW04-97C			W	8/7	1540		
	28-GW08-97C			W	8/7	1715		
	28-SW01-97C			W	8/7	1725		
	28-SW02-97C			W	8/7	1720		
	28-SW03-97C			W	8/7	1715		

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Special Instructions: Metals by CLP

Turn = turnaround
R = Routine

FedEx # 525313 5893

DATE/REVISIONS:
1. ____
2. ____
3. ____
4. ____
5. ____
6. ____

RECRA LabNet Use Only

Samples were: 1) Shipped ___ or Hand Delivered ___ Airbill # ____ 2) Ambient or Chilled 3) Received in Good Condition Y or N 4) Labels Indicate Properly Preserved Y or N 5) Received Within Holding Times Y or N

COC Tape was: 1) Present on Outer Package Y or N 2) Unbroken on Outer Package Y or N 3) Present on Sample Y or N 4) Unbroken on Sample Y or N

COC Record Present Upon Sample Rec't Y or N

Discrepancies Between Samples Labels and COC Record? Y or N
NOTES:

Relinquished by	Received by	Date	Time
T.T.	FedEx	8/9/97	1000

Relinquished by	Received by	Date	Time

97P-1424

COC # 367-2801

RECRA LabNet Use Only

Custody Transfer Record/Lab Work Request

RECRA LabNet
a division of Recra Environmental, Inc.

Client Baker
Est. Final Proj. Sampling Date 8-22-97
Project # 367
Project Contact/Phone # Trebilcock 412-269-2051
RECRA Project Manager Ramirez
QC ____ Del ____ TAT ____
Date Rec'd ____ Date Due ____
Account # ____

Refrigerator #
#/Type Container — Liquid / Solid
Volume — Liquid / Solid
Preservatives

ANALYSES REQUESTED →

ORGANIC: VOA | BNA | Pest/PCB | Herb
INORG: Metal | CN
Turn

RECRA LabNet Use Only

MATRIX CODES:
S - Soil
SE - Sediment
SO - Solid
SL - Sludge
W - Water
O - Oil
A - Air
DS - Drum Solids
DL - Drum Liquids
L - EP/TCLP Leachate
WI - Wipe
X - Other
F - Fish

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected 1997	Time Collected	Metal	Turn
	28-SD01-97C			SE	8/7	1726	X	R
	28-SD02-97C			SE	8/7	1721	X	R
	28-SD03-97C			SE	8/7	1716	X	R

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Special Instructions:
Metals by CLP

Turn = Turnaround
R = Routine

FedEx # 525 313 5893

DATE/REVISIONS:
1. ____
2. ____
3. ____
4. ____
5. ____
6. ____

RECRA LabNet Use Only

Samples were:
1) Shipped ___ or Hand Delivered ___
Airbill # ____
2) Ambient or Chilled
3) Received in Good Condition Y or N
4) Labels Indicate Properly Preserved Y or N
5) Received Within Holding Times Y or N

COC Tape was:
1) Present on Outer Package Y or N
2) Unbroken on Outer Package Y or N
3) Present on Sample Y or N
4) Unbroken on Sample Y or N

COC Record Present Upon Sample Rec't Y or N

Discrepancies Between Samples Labels and COC Record? Y or N
NOTES:

Relinquished by	Received by	Date	Time
7.7.7.	FedEx	8/9/97	1000

Relinquished by	Received by	Date	Time

97P-1424

ATTACHMENT B
MONITORING PROGRAM ANALYTICAL RESULTS - AUGUST 1997

GROUNDWATER ANALYTICAL RESULTS
OPERABLE UNIT NO. 7 - SITE 1
MONITORING AND O&M SUPPORT, CTO-0367
MCB, CAMP LEJEUNE, NORTH CAROLINA
VOLATILE ORGANICS

SAMPLE ID	IR01-GW01-97C	IR01-GW02-97C	IR01-GW03-97C	IR01-GW10-97C	IR01-GW11-97C	IR01-GW12-97CDL	IR01-GW17-97C	IR01-GW17DW-97C
DATE SAMPLED	08/08/97	08/08/97	08/08/97	08/08/97	08/08/97	08/08/97	08/08/97	08/08/97
VOLATILES (ug/L)								
CHLOROMETHANE	10 U	10 U	10 U	10 U	10 U	100 U	10 U	10 U
BROMOMETHANE	10 U	10 U	10 U	10 U	10 U	100 U	10 U	10 U
VINYL CHLORIDE	10 U	10 U	10 U	10 U	10 U	100 U	10 U	10 U
CHLOROETHANE	10 U	10 U	10 U	10 U	10 U	100 U	10 U	10 U
METHYLENE CHLORIDE	10 U	10 U	10 U	10 U	10 U	100 U	10 U	10 U
ACETONE	10 U	10 U	10 U	10 U	10 U	170	10 U	10 U
CARBON DISULFIDE	10 U	10 U	10 U	10 U	10 U	100 U	10 U	10 U
1,1-DICHLOROETHENE	10 U	10 U	10 U	10 U	10 U	100 U	10 U	10 U
1,1-DICHLOROETHANE	10 U	10 U	10 U	10 U	10 U	100 U	10 U	10 U
1,2-DICHLOROETHENE (TOTAL)	10 U	10 U	10 U	16	10 U	100 U	10 U	10 U
CHLOROFORM	10 U	10 U	10 U	10 U	10 U	100 U	10 U	10 U
1,2-DICHLOROETHANE	10 U	10 U	10 U	10 U	10 U	100 U	10 U	10 U
2-BUTANONE	10 U	10 U	10 U	10 U	10 U	100 U	10 U	10 U
1,1,1-TRICHLOROETHANE	10 U	10 U	10 U	10 U	10 U	100 U	10 U	10 U
CARBON TETRACHLORIDE	10 U	10 U	10 U	10 U	10 U	100 U	10 U	10 U
BROMODICHLOROMETHANE	10 U	10 U	10 U	10 U	10 U	100 U	10 U	10 U
1,2-DICHLOROPROPANE	10 U	10 U	10 U	10 U	10 U	100 U	10 U	10 U
CIS-1,3-DICHLOROPROPENE	10 U	10 U	10 U	10 U	10 U	100 U	10 U	10 U
TRICHLOROETHENE	10 U	10 U	10 U	10 U	10 U	100 U	10 U	10 U
DIBROMOCHLOROMETHANE	10 U	10 U	10 U	10 U	10 U	100 U	10 U	10 U
1,1,2-TRICHLOROETHANE	10 U	10 U	10 U	10 U	10 U	100 U	10 U	10 U
BENZENE	10 U	10 U	10 U	10 U	10 U	100 U	10 U	10 U
TRANS-1,3-DICHLOROPROPENE	10 U	10 U	10 U	10 U	10 U	100 U	10 U	10 U
BROMOFORM	10 U	10 U	10 U	10 U	10 U	100 U	10 U	10 U
4-METHYL-2-PENTANONE	10 U	10 U	10 U	10 U	10 U	100 U	10 U	10 U
2-HEXANONE	10 U	10 U	10 U	10 U	10 U	100 U	10 U	10 U
TETRACHLOROETHENE	10 U	10 U	10 U	10 U	10 U	100 U	10 U	10 U
1,1,2,2-TETRACHLOROETHANE	10 U	10 U	10 U	10 U	10 U	100 U	10 U	10 U
TOLUENE	10 U	10 U	10 U	10 U	10 U	100 U	10 U	10 U
CHLOROBENZENE	10 U	10 U	10 U	10 U	10 U	100 U	10 U	10 U
ETHYLBENZENE	10 U	10 U	10 U	10 U	10 U	100 U	10 U	10 U
STYRENE	10 U	10 U	10 U	10 U	10 U	100 U	10 U	10 U
XYLENE (TOTAL)	10 U	10 U	10 U	10 U	10 U	280	10 U	10 U

GROUNDWATER ANALYTICAL RESULTS
OPERABLE UNIT NO. 7 - SITE 28
MONITORING AND O&M SUPPORT, CTO-0367
MCB, CAMP LEJEUNE, NORTH CAROLINA
TOTAL METALS

SAMPLE ID	IR28-GW01-97C	IR28-GW01DW-97C	IR28-GW02-97C	IR28-GW04-97C	IR28-GW07-97C	IR28-GW07DW-97C	IR28-GW08-97C
DATE SAMPLED	08/07/97	08/07/97	08/06/97	08/07/97	08/07/97	08/07/97	08/07/97
TOTAL METALS (ug/L)							
ALUMINUM, TOTAL	28.6 U	28.6 U	28.6 U	28.6 U	64	28.6 U	41.6
ANTIMONY, TOTAL	2.1	1.9 U	1.9 U	1.9 U	44.5	1.9 U	1.9 U
ARSENIC, TOTAL	2.5 U	2.5 U	2.5 U	2.5 U	5.1	2.5 U	3.1
BARIUM, TOTAL	115	23.3	808	16.9	407	17.3	446
BERYLLIUM, TOTAL	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
CADMIUM, TOTAL	0.4 U	0.4 U	0.4 U	0.4 U	0.58	0.4 U	0.4 U
CALCIUM, TOTAL	173000	108000	56400	73400	190000	37800	76300
CHROMIUM, TOTAL	0.7 U	0.7 U	0.7 U	0.7 U	1.3	0.7 U	0.7
COBALT, TOTAL	0.7 U	0.7 U	0.7 U	1.3	1.7	0.7 U	0.7 U
COPPER, TOTAL	1.4	1.6	1.5	1.3	43.8	1.1	2.5
IRON, TOTAL	1150	233	5090	131	24900	16.1 U	7470
LEAD, TOTAL	1.5 U	1.5 U	1.5 U	1.5 U	30.6	1.5 U	5.2
MAGNESIUM, TOTAL	30000	19300	26000	2460	23300	548	26500
MANGANESE, TOTAL	66.2	113	196	48.9	906	1.7	319
MERCURY, TOTAL	0.1 U	0.1 U	0.1 U	0.1 U	0.11	0.1 U	0.1 U
NICKEL, TOTAL	0.8 U	0.8 U	0.8 U	1.2	8.5	0.8 U	1.1
POTASSIUM, TOTAL	26400	31800	52100	1540	18300	1520	67600
SELENIUM, TOTAL	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U
SILVER, TOTAL	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U
SODIUM, TOTAL	86900	786000	81900	12900	67900	6230	163000
THALLIUM, TOTAL	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U
VANADIUM, TOTAL	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	1.1	0.8 U
ZINC, TOTAL	3.4	3	2.3	2.5	106	0.79	13.1

SURFACE WATER ANALYTICAL RESULTS
OPERABLE UNIT NO. 7 - SITE 28
MONITORING AND O&M SUPPORT, CTO-0367
MCB, CAMP LEJEUNE, NORTH CAROLINA
TOTAL METALS

SAMPLE ID	IR28-SW01-97C	IR28-SW02-97C	IR28-SW03-97C
DATE SAMPLED	08/07/97	08/07/97	08/07/97
TOTAL METALS (ug/L)			
ALUMINUM, TOTAL	399	358	332
ANTIMONY, TOTAL	1.9 U	1.9 U	1.9 U
ARSENIC, TOTAL	5.8	4.2	2.9
BARIUM, TOTAL	16	16.3	16.6
BERYLLIUM, TOTAL	0.3 U	0.3 U	0.3 U
CADMIUM, TOTAL	0.4 U	0.4 U	0.4 U
CALCIUM, TOTAL	245000	250000	248000
CHROMIUM, TOTAL	0.84	0.7 U	0.7 U
COBALT, TOTAL	0.7 U	0.9	0.7 U
COPPER, TOTAL	2	2.7	2.9
IRON, TOTAL	422	416	382
LEAD, TOTAL	1.5 U	1.5 U	1.5 U
MAGNESIUM, TOTAL	847000	878000	863000
MANGANESE, TOTAL	10.8	10.5	11.1
MERCURY, TOTAL	0.1 U	0.1 U	0.1 U
NICKEL, TOTAL	1.5	1.6	1.2
POTASSIUM, TOTAL	487000	303000	300000
SELENIUM, TOTAL	2.2 U	2.2 U	2.2 U
SILVER, TOTAL	0.6 U	0.6 U	0.6 U
SODIUM, TOTAL	6480000	6730000	6640000
THALLIUM, TOTAL	2.1 U	2.1 U	2.1 U
VANADIUM, TOTAL	0.8 U	0.95	0.8 U
ZINC, TOTAL	3.5	3.6	3.2

SEDIMENT ANALYTICAL RESULTS
OPERABLE UNIT NO. 7 - SITE 28
MONITORING AND O&M SUPPORT, CTO-0367
MCB, CAMP LEJEUNE, NORTH CAROLINA
TOTAL METALS

SAMPLE ID	IR28-SD01-97C	IR28-SD02-97C	IR28-SD03-97C
DATE SAMPLED	08/07/97	08/07/97	08/07/97
TOTAL METALS (mg/kg)			
ALUMINUM, TOTAL	636	863	706
ANTIMONY, TOTAL	0.47 U	0.55	0.46
ARSENIC, TOTAL	0.62 U	0.64 U	0.53 U
BARIUM, TOTAL	2.7	2.1	38.6
BERYLLIUM, TOTAL	0.07 U	0.08 U	0.06 U
CADMIUM, TOTAL	0.1 U	0.1 U	0.08 U
CALCIUM, TOTAL	143	169	304
CHROMIUM, TOTAL	1.2	1.6	3.2
COBALT, TOTAL	0.17 U	0.18 U	0.15 U
COPPER, TOTAL	2	7.9	6
IRON, TOTAL	400	777	764
LEAD, TOTAL	11.8	36.5	27.9
MAGNESIUM, TOTAL	289	381	381
MANGANESE, TOTAL	2.2	2.2	4
MERCURY, TOTAL	0.05 U	0.05 U	0.05 U
NICKEL, TOTAL	0.2 U	0.2 U	0.17 U
POTASSIUM, TOTAL	177	204	182
SELENIUM, TOTAL	0.55 U	0.56 U	0.47 U
SILVER, TOTAL	0.15 U	0.15 U	0.13 U
SODIUM, TOTAL	1590	1970	1800
THALLIUM, TOTAL	0.52 U	0.54 U	0.45 U
VANADIUM, TOTAL	1.1	1.7	1.8
ZINC, TOTAL	2.3	3.6	8.4

ATTACHMENT C
ANALYTICAL LABORATORY DATA SHEETS - AUGUST 1997

SITE 1

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

01-GW01-97C

Lab Name: RECRA LABNET-CHICAGO Contract:

Lab Code: Case No.: SAS No.: SDG No.: 08G299

Matrix: (soil/water) WATER Lab Sample ID: 9708G299-005

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: CF005

Level: (low/med) LOW Date Received: 08/12/97

% Moisture: not dec. _____ Date Analyzed: 08/22/97

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	10	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

01-GW01-97C

Lab Name: RECRA LABNET-CHICAGO Contract:

Lab Code: Case No.: SAS No.: SDG No.: 08G299

Matrix: (soil/water) WATER Lab Sample ID: 9708G299-005

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: CFO05

Level: (low/med) LOW Date Received: 08/12/97

% Moisture: not dec. _____ Date Analyzed: 08/22/97

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

01-GW02-97C

Lab Name: RECRA LABNET-CHICAGO Contract:

Lab Code: Case No.: SAS No.: SDG No.: 08G299

Matrix: (soil/water) WATER Lab Sample ID: 9708G299-004

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: CF004

Level: (low/med) LOW Date Received: 08/12/97

% Moisture: not dec. _____ Date Analyzed: 08/22/97

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	10	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

01-GW02-97C

Lab Name: RECRA LABNET-CHICAGO Contract:

Lab Code: Case No.: SAS No.: SDG No.: 08G299

Matrix: (soil/water) WATER Lab Sample ID: 9708G299-004

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: CFO04

Level: (low/med) LOW Date Received: 08/12/97

% Moisture: not dec. _____ Date Analyzed: 08/22/97

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

01-GW03-97C

Lab Name: RECRA LABNET-CHICAGO Contract:

Lab Code: Case No.: SAS No.: SDG No.: 08G299

Matrix: (soil/water) WATER Lab Sample ID: 9708G299-003

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: CF003

Level: (low/med) LOW Date Received: 08/12/97

% Moisture: not dec. _____ Date Analyzed: 08/22/97

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	10	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

01-GW03-97C

Lab Name: RECRA LABNET-CHICAGO Contract:

Lab Code: Case No.: SAS No.: SDG No.: 08G299

Matrix: (soil/water) WATER Lab Sample ID: 9708G299-003

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: CFO03

Level: (low/med) LOW Date Received: 08/12/97

% Moisture: not dec. _____ Date Analyzed: 08/22/97

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

01-GW10-97C

Lab Name: RECRA LABNET-CHICAGO Contract:

Lab Code: Case No.: SAS No.: SDG No.: 08G299

Matrix: (soil/water) WATER Lab Sample ID: 9708G299-008

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: CF008

Level: (low/med) LOW Date Received: 08/12/97

% Moisture: not dec. _____ Date Analyzed: 08/22/97

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	10	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	16	
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

01-GW10-97C

Lab Name: RECRA LABNET-CHICAGO Contract:

Lab Code: Case No.: SAS No.: SDG No.: 08G299

Matrix: (soil/water) WATER Lab Sample ID: 9708G299-008

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: CFO08

Level: (low/med) LOW Date Received: 08/12/97

% Moisture: not dec. _____ Date Analyzed: 08/22/97

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

01-GW11-97C

Lab Name: RECRA LABNET-CHICAGO Contract:

Lab Code: Case No.: SAS No.: SDG No.: 08G299

Matrix: (soil/water) WATER Lab Sample ID: 9708G299-007

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: CFO07

Level: (low/med) LOW Date Received: 08/12/97

% Moisture: not dec. _____ Date Analyzed: 08/22/97

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	10	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

01-GW11-97C

Lab Name: RECRA LABNET-CHICAGO Contract:

Lab Code: Case No.: SAS No.: SDG No.: 08G299

Matrix: (soil/water) WATER Lab Sample ID: 9708G299-007

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: CFO07

Level: (low/med) LOW Date Received: 08/12/97

% Moisture: not dec. _____ Date Analyzed: 08/22/97

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

01-GW12-97C

Lab Name: RECRA LABNET-CHICAGO Contract:

Lab Code: Case No.: SAS No.: SDG No.: 08G299

Matrix: (soil/water) WATER Lab Sample ID: 9708G299-006

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: CF006

Level: (low/med) LOW Date Received: 08/12/97

% Moisture: not dec. _____ Date Analyzed: 08/22/97

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	100	U
74-83-9	Bromomethane	100	U
75-01-4	Vinyl Chloride	100	U
75-00-3	Chloroethane	100	U
75-09-2	Methylene Chloride	100	U
67-64-1	Acetone	170	
75-15-0	Carbon Disulfide	100	U
75-35-4	1,1-Dichloroethene	100	U
75-34-3	1,1-Dichloroethane	100	U
540-59-0	1,2-Dichloroethene (total)	100	U
67-66-3	Chloroform	100	U
107-06-2	1,2-Dichloroethane	100	U
78-93-3	2-Butanone	100	U
71-55-6	1,1,1-Trichloroethane	100	U
56-23-5	Carbon Tetrachloride	100	U
75-27-4	Bromodichloromethane	100	U
78-87-5	1,2-Dichloropropane	100	U
10061-01-5	cis-1,3-Dichloropropene	100	U
79-01-6	Trichloroethene	100	U
124-48-1	Dibromochloromethane	100	U
79-00-5	1,1,2-Trichloroethane	100	U
71-43-2	Benzene	100	U
10061-02-6	trans-1,3-Dichloropropene	100	U
75-25-2	Bromoform	100	U
108-10-1	4-Methyl-2-pentanone	100	U
591-78-6	2-Hexanone	100	U
127-18-4	Tetrachloroethene	100	U
79-34-5	1,1,2,2-Tetrachloroethane	100	U
108-88-3	Toluene	100	U
108-90-7	Chlorobenzene	100	U
100-41-4	Ethylbenzene	100	U
100-42-5	Styrene	100	U
1330-20-7	Xylene (total)	280	

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

01-GW12-97C

Lab Name: RECRA LABNET-CHICAGO Contract:

Lab Code: Case No.: SAS No.: SDG No.: 08G299

Matrix: (soil/water) WATER Lab Sample ID: 9708G299-006

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: CFO06

Level: (low/med) LOW Date Received: 08/12/97

% Moisture: not dec. _____ Date Analyzed: 08/22/97

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 10

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN HYDROCARBON	16.62	120	J
2.		UNKNOWN HYDROCARBON	17.43	57	J
3.		UNKNOWN HYDROCARBON C6H14	19.67	140	J
4.		UNKNOWN HYDROCARBON	20.20	71	J
5.		UNKNOWN HYDROCARBON C6H12	21.97	140	J
6.		UNKNOWN CYCLOALKANE C6H12	23.20	100	J
7.		SUBST BENZENE C9H12	32.49	87	J
8.		TRIMETHYLBENZENE ISOMER C9H1	32.60	88	J
9.		TRIMETHYLBENZENE ISOMER C9H1	33.55	250	J
10.		TRIMETHYLBENZENE ISOMER C9H1	34.70	64	J
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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

01-GW17-97C

Lab Name: RECRA LABNET-CHICAGO Contract:

Lab Code: Case No.: SAS No.: SDG No.: 08G299

Matrix: (soil/water) WATER Lab Sample ID: 9708G299-001

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: CF001

Level: (low/med) LOW Date Received: 08/12/97

% Moisture: not dec. _____ Date Analyzed: 08/22/97

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	10	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

01-GW17-97C

Lab Name: RECRA LABNET-CHICAGO Contract:

Lab Code: Case No.: SAS No.: SDG No.: 08G299

Matrix: (soil/water) WATER Lab Sample ID: 9708G299-001

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: CF001

Level: (low/med) LOW Date Received: 08/12/97

% Moisture: not dec. _____ Date Analyzed: 08/22/97

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
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1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

01-GW17DW-97C

Lab Name: RECRA LABNET-CHICAGO Contract:

Lab Code: Case No.: SAS No.: SDG No.: 08G299

Matrix: (soil/water) WATER Lab Sample ID: 9708G299-002

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: CF002

Level: (low/med) LOW Date Received: 08/12/97

% Moisture: not dec. _____ Date Analyzed: 08/22/97

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	10	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

01-GW17DW-97C

Lab Name: RECRA LABNET-CHICAGO Contract:

Lab Code: Case No.: SAS No.: SDG No.: 08G299

Matrix: (soil/water) WATER Lab Sample ID: 9708G299-002

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: CF002

Level: (low/med) LOW Date Received: 08/12/97

% Moisture: not dec. _____ Date Analyzed: 08/22/97

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
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1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

01-TB01-97C

Lab Name: RECRA LABNET-CHICAGO Contract:

Lab Code: Case No.: SAS No.: SDG No.: 08G299

Matrix: (soil/water) WATER Lab Sample ID: 9708G299-009

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: CF009

Level: (low/med) LOW Date Received: 08/12/97

% Moisture: not dec. _____ Date Analyzed: 08/22/97

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	10	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

01-TB01-97C

Lab Name: RECRA LABNET-CHICAGO Contract:

Lab Code: Case No.: SAS No.: SDG No.: 08G299

Matrix: (soil/water) WATER Lab Sample ID: 9708G299-009

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: CF009

Level: (low/med) LOW Date Received: 08/12/97

% Moisture: not dec. _____ Date Analyzed: 08/22/97

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
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SITE 28

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

G30002

Lab Name: RECRA_LABNET_CHICAGO_____ Contract: _____

Lab Code: RECRA_ Case No.: _____ SAS No.: _____ SDG No.: G30001

Matrix (soil/water): WATER Lab Sample ID: 9708G300-002

Level (low/med): LOW__ Date Received: 08/12/97

% Solids: __0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	28.6	U		P
7440-36-0	Antimony	2.1	B		P
7440-38-2	Arsenic	2.5	U		P
7440-39-3	Barium	115	B		P
7440-41-7	Beryllium	0.30	U		P
7440-43-9	Cadmium	0.40	U		P
7440-70-2	Calcium	173000			P
7440-47-3	Chromium	0.70	U		P
7440-48-4	Cobalt	0.70	U		P
7440-50-8	Copper	1.4	B		P
7439-89-6	Iron	1150			P
7439-92-1	Lead	1.5	U		P
7439-95-4	Magnesium	30000			P
7439-96-5	Manganese	66.2			P
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel	0.80	U		P
7440-09-7	Potassium	26400			P
7782-49-2	Selenium	2.2	U		P
7440-22-4	Silver	0.60	U		P
7440-23-5	Sodium	86900			P
7440-28-0	Thallium	2.1	U		P
7440-62-2	Vanadium	0.80	U		P
7440-66-6	Zinc	3.4	B		P
	Cyanide				NR

Color Before: COLORLESS Clarity Before: CLEAR_ Texture: _____

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:

28-GW01-97C

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

G30003

Lab Name: RECRA_LABNET_CHICAGO_____ Contract: _____

Lab Code: RECRA_ Case No.: _____ SAS No.: _____ SDG No.: G30001

Matrix (soil/water): WATER Lab Sample ID: 9708G300-003

Level (low/med): LOW__ Date Received: 08/12/97

% Solids: __0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	28.6	U		P_
7440-36-0	Antimony_	1.9	U		P_
7440-38-2	Arsenic__	2.5	U		P_
7440-39-3	Barium___	23.3	B		P_
7440-41-7	Beryllium	0.30	U		P_
7440-43-9	Cadmium__	0.40	U		P_
7440-70-2	Calcium__	108000			P_
7440-47-3	Chromium_	0.70	U		P_
7440-48-4	Cobalt___	0.70	U		P_
7440-50-8	Copper___	1.6	B		P_
7439-89-6	Iron_____	233			P_
7439-92-1	Lead_____	1.5	U		P_
7439-95-4	Magnesium	19300			P_
7439-96-5	Manganese	113			P_
7439-97-6	Mercury__	0.10	U		CV
7440-02-0	Nickel___	0.80	U		P_
7440-09-7	Potassium	31800			P_
7782-49-2	Selenium_	2.2	U		P_
7440-22-4	Silver___	0.60	U		P_
7440-23-5	Sodium___	786000			P_
7440-28-0	Thallium_	2.1	U		P_
7440-62-2	Vanadium_	0.80	U		P_
7440-66-6	Zinc_____	3.0	B		P_
_____	Cyanide__	_____			NR
_____	_____	_____			

Color Before: COLORLESS Clarity Before: CLEAR_ Texture: _____

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:

28-GW01DW-97C_____

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

G30001

Lab Name: RECRA_LABNET_CHICAGO_____ Contract: _____

Lab Code: RECRA_ Case No.: _____ SAS No.: _____ SDG No.: G30001

Matrix (soil/water): WATER Lab Sample ID: 9708G300-001

Level (low/med): LOW__ Date Received: 08/12/97

% Solids: __0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	28.6	U		P
7440-36-0	Antimony_	1.9	U		P
7440-38-2	Arsenic__	2.5	U		P
7440-39-3	Barium___	808			P
7440-41-7	Beryllium	0.30	U		P
7440-43-9	Cadmium__	0.40	U		P
7440-70-2	Calcium__	56400			P
7440-47-3	Chromium_	0.70	U		P
7440-48-4	Cobalt___	0.70	U		P
7440-50-8	Copper___	1.5	B		P
7439-89-6	Iron_____	5090			P
7439-92-1	Lead_____	1.5	U		P
7439-95-4	Magnesium	26000			P
7439-96-5	Manganese	196			P
7439-97-6	Mercury__	0.10	U		CV
7440-02-0	Nickel___	0.80	U		P
7440-09-7	Potassium	52100			P
7782-49-2	Selenium_	2.2	U		P
7440-22-4	Silver___	0.60	U		P
7440-23-5	Sodium___	81900			P
7440-28-0	Thallium_	2.1	U		P
7440-62-2	Vanadium_	0.80	U		P
7440-66-6	Zinc_____	2.3	B		P
_____	Cyanide__	_____	_		NR
_____	_____	_____	_		_

Color Before: COLORLESS Clarity Before: CLEAR_ Texture: _____

Color After: YELLOW___ Clarity After: CLEAR_ Artifacts: _____

Comments:

28-GW02-97C_____

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

G30006

Lab Name: RECRA_LABNET_CHICAGO_____ Contract: _____

Lab Code: RECRA_ Case No.: _____ SAS No.: _____ SDG No.: G30001

Matrix (soil/water): WATER Lab Sample ID: 9708G300-006

Level (low/med): LOW__ Date Received: 08/12/97

% Solids: __0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	28.6	U		P
7440-36-0	Antimony_	1.9	U		P
7440-38-2	Arsenic__	2.5	U		P
7440-39-3	Barium___	16.9	B		P
7440-41-7	Beryllium	0.30	U		P
7440-43-9	Cadmium__	0.40	U		P
7440-70-2	Calcium__	73400			P
7440-47-3	Chromium_	0.70	U		P
7440-48-4	Cobalt___	1.3	B		P
7440-50-8	Copper___	1.3	B		P
7439-89-6	Iron_____	131			P
7439-92-1	Lead_____	1.5	U		P
7439-95-4	Magnesium	2460	B		P
7439-96-5	Manganese	48.9			P
7439-97-6	Mercury__	0.10	U		CV
7440-02-0	Nickel___	1.2	B		P
7440-09-7	Potassium	1540	B		P
7782-49-2	Selenium_	2.2	U		P
7440-22-4	Silver___	0.60	U		P
7440-23-5	Sodium___	12900			P
7440-28-0	Thallium_	2.1	U		P
7440-62-2	Vanadium_	0.80	U		P
7440-66-6	Zinc_____	2.5	B		P
_____	Cyanide__	_____			NR
_____	_____	_____			

Color Before: COLORLESS Clarity Before: CLEAR_ Texture: _____

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:

28-GW04-97C_____

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.
G30005

Lab Name: RECRA_LABNET_CHICAGO_____ Contract: _____

Lab Code: RECRA_ Case No.: _____ SAS No.: _____ SDG No.: G30001

Matrix (soil/water): WATER Lab Sample ID: 9708G300-005

Level (low/med): LOW__ Date Received: 08/12/97

% Solids: __0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	64.0	B		P
7440-36-0	Antimony_	44.5	B		P
7440-38-2	Arsenic__	5.1	B		P
7440-39-3	Barium___	407			P
7440-41-7	Beryllium	0.30	U		P
7440-43-9	Cadmium__	0.58	B		P
7440-70-2	Calcium__	190000			P
7440-47-3	Chromium_	1.3	B		P
7440-48-4	Cobalt___	1.7	B		P
7440-50-8	Copper___	43.8			P
7439-89-6	Iron____	24900			P
7439-92-1	Lead____	30.6			P
7439-95-4	Magnesium	23300			P
7439-96-5	Manganese	906			P
7439-97-6	Mercury__	0.11	B		CV
7440-02-0	Nickel___	8.5	B		P
7440-09-7	Potassium	18300			P
7782-49-2	Selenium_	2.2	U		P
7440-22-4	Silver___	0.60	U		P
7440-23-5	Sodium___	67900			P
7440-28-0	Thallium_	2.1	U		P
7440-62-2	Vanadium_	0.80	U		P
7440-66-6	Zinc____	106			P
_____	Cyanide__	_____			NR
_____	_____	_____			

Color Before: YELLOW___ Clarity Before: CLEAR_ Texture: _____

Color After: YELLOW___ Clarity After: CLEAR_ Artifacts: _____

Comments:
28-GW07-97C_____

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

G30004

Lab Name: RECRA_LABNET_CHICAGO_____ Contract: _____

Lab Code: RECRA_ Case No.: _____ SAS No.: _____ SDG No.: G30001

Matrix (soil/water): WATER Lab Sample ID: 9708G300-004

Level (low/med): LOW__ Date Received: 08/12/97

% Solids: __0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	28.6	U		P
7440-36-0	Antimony_	1.9	U		P
7440-38-2	Arsenic__	2.5	U		P
7440-39-3	Barium___	17.3	B		P
7440-41-7	Beryllium	0.30	U		P
7440-43-9	Cadmium__	0.40	U		P
7440-70-2	Calcium__	37800			P
7440-47-3	Chromium_	0.70	U		P
7440-48-4	Cobalt___	0.70	U		P
7440-50-8	Copper___	1.1	B		P
7439-89-6	Iron_____	16.1	U		P
7439-92-1	Lead_____	1.5	U		P
7439-95-4	Magnesium	548	B		P
7439-96-5	Manganese	1.7	B		P
7439-97-6	Mercury__	0.10	U		CV
7440-02-0	Nickel___	0.80	U		P
7440-09-7	Potassium	1520	B		P
7782-49-2	Selenium_	2.2	U		P
7440-22-4	Silver___	0.60	U		P
7440-23-5	Sodium___	6230			P
7440-28-0	Thallium_	2.1	U		P
7440-62-2	Vanadium_	1.1	B		P
7440-66-6	Zinc_____	0.79	B		P
_____	Cyanide__	_____	_		NR
_____	_____	_____	_		__

Color Before: COLORLESS Clarity Before: CLEAR_ Texture: _____

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:

28-GW07DW-97C_____

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

G30007

Lab Name: RECRA_LABNET_CHICAGO_____ Contract: _____

Lab Code: RECRA_ Case No.: _____ SAS No.: _____ SDG No.: G30001

Matrix (soil/water): WATER Lab Sample ID: 9708G300-007

Level (low/med): LOW__ Date Received: 08/12/97

% Solids: __0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	41.6	B		P
7440-36-0	Antimony_	1.9	U		P
7440-38-2	Arsenic__	3.1	B		P
7440-39-3	Barium___	446			P
7440-41-7	Beryllium	0.30	U		P
7440-43-9	Cadmium__	0.40	U		P
7440-70-2	Calcium__	76300			P
7440-47-3	Chromium_	0.70	B		P
7440-48-4	Cobalt___	0.70	U		P
7440-50-8	Copper___	2.5	B		P
7439-89-6	Iron_____	7470			P
7439-92-1	Lead_____	5.2			P
7439-95-4	Magnesium	26500			P
7439-96-5	Manganese	319			P
7439-97-6	Mercury__	0.10	U		CV
7440-02-0	Nickel___	1.1	B		P
7440-09-7	Potassium	67600			P
7782-49-2	Selenium_	2.2	U		P
7440-22-4	Silver___	0.60	U		P
7440-23-5	Sodium___	163000			P
7440-28-0	Thallium_	2.1	U		P
7440-62-2	Vanadium_	0.80	U		P
7440-66-6	Zinc_____	13.1	B		P
_____	Cyanide__	_____			NR
_____	_____	_____			

Color Before: YELLOW___ Clarity Before: CLEAR_ Texture: _____

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:

28-GW08-97C_____

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

G30008

Lab Name: RECRA_LABNET_CHICAGO_____ Contract: _____

Lab Code: RECRA_ Case No.: _____ SAS No.: _____ SDG No.: G30001

Matrix (soil/water): WATER Lab Sample ID: 9708G300-008

Level (low/med): LOW__ Date Received: 08/12/97

% Solids: __0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	399			P
7440-36-0	Antimony_	1.9	U		P
7440-38-2	Arsenic__	5.8	B		P
7440-39-3	Barium___	16.0	B		P
7440-41-7	Beryllium	0.30	U		P
7440-43-9	Cadmium__	0.40	U		P
7440-70-2	Calcium__	245000			P
7440-47-3	Chromium_	0.84	B		P
7440-48-4	Cobalt___	0.70	U		P
7440-50-8	Copper___	2.0	B		P
7439-89-6	Iron_____	422			P
7439-92-1	Lead_____	1.5	U		P
7439-95-4	Magnesium	847000			P
7439-96-5	Manganese	10.8	B		P
7439-97-6	Mercury__	0.10	U		CV
7440-02-0	Nickel___	1.5	B		P
7440-09-7	Potassium	487000			P
7782-49-2	Selenium_	2.2	U		P
7440-22-4	Silver___	0.60	U		P
7440-23-5	Sodium___	6480000			P
7440-28-0	Thallium_	2.1	U		P
7440-62-2	Vanadium_	0.80	U		P
7440-66-6	Zinc_____	3.5	B		P
_____	Cyanide__	_____			NR
_____	_____	_____			

Color Before: YELLOW___ Clarity Before: CLEAR_ Texture: _____

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:

28-SW01-97C_____

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.
G30009

Lab Name: RECRA_LABNET_CHICAGO_____ Contract: _____

Lab Code: RECRA_ Case No.: _____ SAS No.: _____ SDG No.: G30001

Matrix (soil/water): WATER Lab Sample ID: 9708G300-009

Level (low/med): LOW__ Date Received: 08/12/97

% Solids: __0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	358			P
7440-36-0	Antimony_	1.9	U		P
7440-38-2	Arsenic__	4.2	B		P
7440-39-3	Barium___	16.3	B		P
7440-41-7	Beryllium	0.30	U		P
7440-43-9	Cadmium__	0.40	U		P
7440-70-2	Calcium__	250000			P
7440-47-3	Chromium_	0.70	U		P
7440-48-4	Cobalt___	0.90	B		P
7440-50-8	Copper___	2.7	B		P
7439-89-6	Iron_____	416			P
7439-92-1	Lead_____	1.5	U		P
7439-95-4	Magnesium	878000			P
7439-96-5	Manganese	10.5	B		P
7439-97-6	Mercury__	0.10	U		CV
7440-02-0	Nickel___	1.6	B		P
7440-09-7	Potassium	303000	B		P
7782-49-2	Selenium_	2.2	U		P
7440-22-4	Silver___	0.60	U		P
7440-23-5	Sodium___	6730000			P
7440-28-0	Thallium_	2.1	U		P
7440-62-2	Vanadium_	0.95	B		P
7440-66-6	Zinc_____	3.6	B		P
_____	Cyanide__	_____	_	_____	NR
_____	_____	_____	_	_____	___

Color Before: YELLOW___ Clarity Before: CLEAR_ Texture: _____

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:
28-SW02-97C_____

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

G30010

Lab Name: RECRA_LABNET_CHICAGO_____ Contract: _____

Lab Code: RECRA_ Case No.: _____ SAS No.: _____ SDG No.: G30001

Matrix (soil/water): WATER Lab Sample ID: 9708G300-010

Level (low/med): LOW__ Date Received: 08/12/97

% Solids: __0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	332	_		P_
7440-36-0	Antimony_	1.9	U		P_
7440-38-2	Arsenic__	2.9	B		P_
7440-39-3	Barium___	16.6	B		P_
7440-41-7	Beryllium	0.30	U		P_
7440-43-9	Cadmium__	0.40	U		P_
7440-70-2	Calcium__	248000	_		P_
7440-47-3	Chromium_	0.70	U		P_
7440-48-4	Cobalt___	0.70	U		P_
7440-50-8	Copper___	2.9	B		P_
7439-89-6	Iron_____	382	_		P_
7439-92-1	Lead_____	1.5	U		P_
7439-95-4	Magnesium	863000	_		P_
7439-96-5	Manganese	11.1	B		P_
7439-97-6	Mercury__	0.10	U		CV
7440-02-0	Nickel___	1.2	B		P_
7440-09-7	Potassium	300000	B		P_
7782-49-2	Selenium_	2.2	U		P_
7440-22-4	Silver___	0.60	U		P_
7440-23-5	Sodium___	6640000	_		P_
7440-28-0	Thallium_	2.1	U		P_
7440-62-2	Vanadium_	0.80	U		P_
7440-66-6	Zinc_____	3.2	B		P_
_____	Cyanide__	_____	_		NR
_____	_____	_____	_		___

Color Before: YELLOW___ Clarity Before: CLEAR_ Texture: _____

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:

28-SW03-97C_____

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.
G30011

Lab Name: RECRA_LABNET_CHICAGO_____ Contract: _____

Lab Code: RECRA_ Case No.: _____ SAS No.: _____ SDG No.: G30001

Matrix (soil/water): SOIL_ Lab Sample ID: 9708G300-011

Level (low/med): LOW__ Date Received: 08/12/97

% Solids: _78.1

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	636		N	P
7440-36-0	Antimony	0.47	U		P
7440-38-2	Arsenic	0.62	U		P
7440-39-3	Barium	2.7	B		P
7440-41-7	Beryllium	0.07	U		P
7440-43-9	Cadmium	0.10	U		P
7440-70-2	Calcium	143	B		P
7440-47-3	Chromium	1.2	B		P
7440-48-4	Cobalt	0.17	U		P
7440-50-8	Copper	2.0	B		P
7439-89-6	Iron	400			P
7439-92-1	Lead	11.8		N	P
7439-95-4	Magnesium	289	B		P
7439-96-5	Manganese	2.2	B		P
7439-97-6	Mercury	0.05	U		CV
7440-02-0	Nickel	0.20	U		P
7440-09-7	Potassium	177	B		P
7782-49-2	Selenium	0.55	U		P
7440-22-4	Silver	0.15	U		P
7440-23-5	Sodium	1590			P
7440-28-0	Thallium	0.52	U		P
7440-62-2	Vanadium	1.1	B		P
7440-66-6	Zinc	2.3	B		P
	Cyanide				NR

Color Before: GREY_____ Clarity Before: _____ Texture: MEDIUM

Color After: COLORLESS Clarity After: _____ Artifacts: _____

Comments:
28-SD01-97C

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

G30012

Lab Name: RECRA_LABNET_CHICAGO_____ Contract: _____

Lab Code: RECRA_ Case No.: _____ SAS No.: _____ SDG No.: G30001

Matrix (soil/water): SOIL_ Lab Sample ID: 9708G300-012

Level (low/med): LOW__ Date Received: 08/12/97

% Solids: _76.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	863		N	P
7440-36-0	Antimony	0.55	B		P
7440-38-2	Arsenic	0.64	U		P
7440-39-3	Barium	2.1	B		P
7440-41-7	Beryllium	0.08	U		P
7440-43-9	Cadmium	0.10	U		P
7440-70-2	Calcium	169	B		P
7440-47-3	Chromium	1.6	B		P
7440-48-4	Cobalt	0.18	U		P
7440-50-8	Copper	7.9			P
7439-89-6	Iron	777			P
7439-92-1	Lead	36.5		N	P
7439-95-4	Magnesium	381	B		P
7439-96-5	Manganese	2.2	B		P
7439-97-6	Mercury	0.05	U		CV
7440-02-0	Nickel	0.20	U		P
7440-09-7	Potassium	204	B		P
7782-49-2	Selenium	0.56	U		P
7440-22-4	Silver	0.15	U		P
7440-23-5	Sodium	1970			P
7440-28-0	Thallium	0.54	U		P
7440-62-2	Vanadium	1.7	B		P
7440-66-6	Zinc	3.6	B		P
	Cyanide				NR

Color Before: GREY_____ Clarity Before: _____ Texture: MEDIUM

Color After: COLORLESS Clarity After: _____ Artifacts: _____

Comments:

28-SD02-97C_____

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

G30013

Lab Name: RECRA_LABNET_CHICAGO_____ Contract: _____

Lab Code: RECRA_ Case No.: _____ SAS No.: _____ SDG No.: G30001

Matrix (soil/water): SOIL_ Lab Sample ID: 9708G300-013

Level (low/med): LOW__ Date Received: 08/12/97

% Solids: _78.6

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	706		N	P
7440-36-0	Antimony	0.46	B		P
7440-38-2	Arsenic	0.53	U		P
7440-39-3	Barium	38.6	B		P
7440-41-7	Beryllium	0.06	U		P
7440-43-9	Cadmium	0.08	U		P
7440-70-2	Calcium	304	B		P
7440-47-3	Chromium	3.2			P
7440-48-4	Cobalt	0.15	U		P
7440-50-8	Copper	6.0			P
7439-89-6	Iron	764			P
7439-92-1	Lead	27.9		N	P
7439-95-4	Magnesium	381	B		P
7439-96-5	Manganese	4.0			P
7439-97-6	Mercury	0.05	U		CV
7440-02-0	Nickel	0.17	U		P
7440-09-7	Potassium	182	B		P
7782-49-2	Selenium	0.47	U		P
7440-22-4	Silver	0.13	U		P
7440-23-5	Sodium	1800			P
7440-28-0	Thallium	0.45	U		P
7440-62-2	Vanadium	1.8	B		P
7440-66-6	Zinc	8.4			P
	Cyanide				NR

Color Before: GREY_____ Clarity Before: _____ Texture: MEDIUM

Color After: COLORLESS Clarity After: _____ Artifacts: _____

Comments:

28-SD03-97C_____